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ABSTRACT

This monograph examines methods by which faculty workload studies can be performed. It includes definitions and discussion of activities used in workload assessment, such as instructional time, institutional and public service, personal activities and research, scholarship and creative endeavors. The conclusion indicates that there is a paucity of empirical data about faculty workloads and too much acceptance of commonplace assumptions that do not stand up to critical examination. Faculty workload formulas will vary from institution to institution, and the individual institution should develop its own faculty workload questionnaires. (MJM)

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Faculty Workload: Facts, Myths and Commentary

Harold E. Yuker

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Research Report No. 6
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Foreword

As the cover art for this research report suggests, faculty workload can be as difficult to define and measure as the intellectual process itself. Even the adequacy of such measurable aspects of faculty workload as time and number of students is debatable since quantity is often gained at the expense of quality and breadth at the expense of depth.

This monograph examines methods by which faculty workload studies can be performed. It includes definitions and discussion of activities used in workload assessment, such as instructional time, institutional and public service, personal activities, and research, scholarship and creative endeavors. The author concludes that there is a paucity of empirical data about faculty workloads and too much acceptance of commonplace assumptions that do not stand up to critical examination. He believes faculty workload formulas will vary from institution to institution, and that individual institutions should develop their own faculty workload questionnaries. In this way, a basis for adequate empirical data about faculty workload can be developed. The author, Harold E. Yuker, is Director of The Center for the Study of Higher Education, Hofstra University, Hempstead, New York.

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Overview

Studies of faculty workload have been conducted for over 50 years. Data obtained in these studies have been used to measure academic efficiency and to determine academic policies. Yet questions and problems have persisted despite the large number of such studies. One of the most basic questions centers around the definition of faculty workload. At one extreme workload can be defined in terms of the number of credit hours taught. At the other extreme it can be defined in terms of the number of hours per week devoted to all academic activities, including some that seem unrelated to university or classroom activities. Rather than attempt a broad definition, workload is discussed here in terms of the general activity categories that can be included as part of individual faculty workload.

Measures of faculty workload can be obtained from institutional data, such as credit hours, contact hours, semester credit hours per fulltime equivalent faculty member, or student-faculty ratios. Alternatively, faculty workload measures may be obtained from faculty reports. Although there are problems attendant to the use of faculty reports, this data tends to be superior to that obtained from institutional records.

While the specific types of activities discussed differ from one study to another, some categories appear frequently. Instructional time may be defined as including time spent in class, preparation time, and evaluation time. Time spent interacting with students includes all aspects of such interaction, both academic and nonacademic. Research, scholarship, and creative activity is used to encompass all of the intellectual and scholarly activities engaged in by faculty members that result in a specific scholarly output such as a book, article, report, painting, or musical composition. Professional development refers to activities related to individual learning such as reading or attending professional meetings. Institutional service is a broad category including attending meetings, participating in student service activities or other organized activities, and performing general administrative functions. Public service activities include consulting, holding office in professional organizations, editing professional journals, or giving speeches to groups outside the university. Finally, the category of personal activities, while usually not included in studies of faculty workload, should be included to indicate the amount of

time devoted to nonprofessional activities while the faculty member is on campus.

Before conducting a study of faculty workload one should prepare a precise statement of the purposes of the study and the uses to be made of the data obtained. Then one must decide on the population and sample to be studied, the time period to be covered by the study, and when the data will be collected. A specific method of data collection must be decided upon and the instruments used must be developed. Questionnaires appear to be the method of choice, and manuals developed at the National Center for Higher Education Management Systems (e.g., Manning and Romney 1973) describe a standardized system for obtaining faculty workload data. Finally, it is necessary to obtain the cooperation of the faculty and to ensure that the data will be both reliable and valid.

The literature contains many discussions of factors that are *presumed* to influence faculty workloads. Unfortunately, there is often a lack of correspondence between the claims that are made and the conclusions indicated by data. Thus, while class size is often claimed to be an important influence, this is not justified by the data. Its influence on workload varies from course to course and teacher to teacher. The same is true for course level. Limited data indicate that the mode of presentation, e.g., lecture, discussion, laboratory, is an important influence, although this is seldom reflected in practice. Data also indicate that the specific subject matter taught is often an important influence on teaching load, but this too is seldom reflected in institutional policies. New preparations require more time than do courses previously taught; however, the data with respect to the number of different preparations is equivocal. Although many formulas for the calculation of faculty workload have been developed, they should be approached with caution, since they frequently are based on unproven assumptions, and they ignore individual difference among faculty and subject matter.

Convergences in the data from many studies lead to the conclusion that faculty members claim that they work an average of 55 hours per week if a broad definition of workload is used. There are, however, large individual differences as well as differences among disciplines, ranks, and institutions. While this finding of a long work week is sometimes greeted with skepticism, and convergences in the data are impressive.

There are differences in the way that faculty work time is distributed, as well as differences in the total amount of time worked.

Estimates of the percent of time devoted to instruction range from about 40 percent to about 70 percent. The percent of time devoted to instruction has been shown to be related to the institution, the discipline, and the faculty member's rank. The same thing is true with respect to the percent of time devoted to research and scholarship. The studies reviewed fail to indicate a consistent relationship between the amount of time devoted to instruction and the amount of time devoted to research. Finally, the important role of individual differences was stressed.

The number of articles devoted to faculty workload indicate continuing interest in the topic. Unfortunately, however, there is still too little data and too many theoretical discussions based on myths rather than data. The attempt to develop a comprehensive standardized system by the National Center for Higher Education Management Systems is an important step toward the provision of meaningful and accurate data. Once sufficient data is obtained, we should move in the direction of individualized faculty contracts in which workload is based on matching the interests and strengths of faculty members with the needs of the university. This should both increase productivity and make faculty evaluation more meaningful.

The Concept of Faculty Workload

> Until the last decade or two educational administration has been notably laggard in attacking its problems by methods approximating the scientific. Tradition, sentiment, rules of thumb, temporizing, compromise—these have been, and unfortunately, still are, the dominant methods in this important field of human enterprise. One of the largest of the problems in the administration of educational institutions is that of the proper method of determination of the working load of the members of the instructional staff (Koos 1919, p. 5).

Although the quotation cited above is over 50 years old, it might have been made yesterday. Despite the studies conducted over the intervening years, there seems to have been little forward movement if forward movement is defined as the adoption of standardized "scientific" methods for the determination of faculty workloads. This can be illustrated by the following quotation from the *New York Times* of September 24, 1973.

> The Citizens Budget Commission, a nonpartisan civic group, said yesterday that the City University of New York could save from $26-million to $34-million a year by increasing the faculty workload without diminishing the quality of education.

These two quotations amply document the interest in faculty workload throughout the present century. A brief literature review clearly illustrates this.

Historical Overview

The first study of faculty workload of major significance was published in 1919 by Koos. The sixty-page monograph published by the Bureau of Education of the United States Department of the Interior was an excellent pioneering study. Koos set out to obtain answers to questions regarding the influence of various factors on teaching loads. His study was so well done that many of his findings have been confirmed repeatedly. Some of his findings have not yet been confirmed because researchers have not shared the breadth of his interests. Despite our presumed growth in methodological sophistication, Koos' study remains a landmark.

From 1920 through the 1930's quite a few studies were conducted. The most important are probably those by Davis (1924), Kelly (1926), and Ayer (1929). An important chapter on this topic appeared in a book by Reeves and Russell (1929), which reported the results of

studies at the University of Chicago. During the 1940's and 1950's there were several studies of varying importance each year. The *Encyclopedia of Educational Research* carried review articles on faculty workload in 1941, 1950, and 1960 (Douglass and Gruhn 1941; Douglass and Romine 1950; and Lambert and Iwamato 1960). Unfortunately, these reviews are limited because they focus largely on elementary and secondary education. In addition, the updating appears to be minimal and each review covers many of the same references. The most recent edition of the encyclopedia does not have an article on this topic.

In 1959 an important article was published by Ritchey in which he described a time sampling technique for measuring faculty workload. Also in that year there was a 2-day conference on this topic held at Purdue University. The papers presented at that confernce were published in a monograph edited by Bunnell (1960), which contains many excellent papers including a literature review by Stickler (1960). In 1961 Stecklein published a classic monograph dealing with methods for measuring faculty workload.

From the late 1950's to the present there have been an increasing number of reports by individual institutions or by state university systems. The year 1971 saw the publication of important reports by Lorents and by Romney. The Lorents report contains a comprehensive literature review and bibliography, and describes the results of an extensive study using a time sampling technique. The publication by Romney also contains an extensive bibliography and a literature review and describes the work being done by a Faculty Activity Analysis Task Force under the auspices of the National Center for Higher Education Management Systems (NCHEMS) at the Western Interstate Commission for Higher Education (WICHE). The manual by Romney is the first of three designed to completely describe the faculty activity analysis approach (Romney 1971; Manning and Romney 1973; Manning 1974).

Uses of Workload Data

Many of the studies listed in the bibliography contain a discussion of either the purposes of studying faculty workload, the uses to which faculty workload data can be put, or both. Some of the discussions are fairly extensive (Blee 1960; Doi 1961; Stecklein 1961; Henle 1967; Hauck 1969; Hill 1969; Lorents 1971; and Romney 1971). Although one or two of the authors reviewed purposes listed by previous authors, most developed their own list of purposes. Each list thus tends

to be an individual product. There is some overlap, but since most of the lists used different language, and did not use operational definitions, it is hard to determine the extent of the overlap. Combining the purposes listed by the several authors, a list of approximately 25 seemingly different items was compiled. There undoubtedly was some convergence among the items, but it was not immediately apparent.

Listing the purposes for studying faculty workloads is generally not helpful. On the other hand, a discussion of questions that can be answered in a faculty workload study would be more useful. Also, lists of questions tend to be more specifically useful than philosophical discussions of purposes. Perusal of a comprehensive list of the questions that can be answered by studies of this type could help one decide whether or not a workload study should be performed. One relatively comprehensive list was presented by Stecklein (1961). His list includes:

1. What is the total fulltime equivalent staff devoted to instruction, research, administration, student counseling, and public and professional services?
2. What is the relationship between type of instruction and the time spent on various phases of instruction as well as the total time devoted to instruction?
3. What is the average percentage of time spent by faculty members at each rank on the various levels of instruction and the various types of instruction?
4. What proportion of time do faculty members at each rank devote to instruction, research, administrative duties, student services, public services?
5. What differences exist between departments in the percent of faculty time devoted to the several functions?
6. What is the total work week for faculty members by rank and/or by department?
7. What is the fulltime equivalent staff per student credit hour?
8. What is the relationship between credit hour or class hour and amount of time devoted to instruction at the various ranks?

Stecklein (1960) pointed out that faculty load analysis can be important to the faculty member, a value of faculty load studies that is often neglected. A well thought out study of workload requires each faculty participant to analyze how much time is devoted to each type of activity. Often this is a new experience. Many faculty members have never considered how their time is spent. This analysis may result in a change in the way a faculty member allocates his time.

Commentators have noted (Durham 1960; Stecklein 1961) that data obtained in studies of faculty workload are frequently misused. The

most common, and possibly the most pernicious misuse, is probably the use of such data in a mechanical fashion to set institutional norms with respect to items like salaries, faculty load, promotions, and tenure. Decisions of this type should not be based on data with such well known imperfections. Decisions about individual faculty members should be based on qualitative as well as quantitative information.

Problems in Workload Studies

A number of problems typically arise in studies of faculty workload. One should be aware of these problems both in conducting studies of workload and in interpreting the results of workload studies. The way problems are solved will influence the results obtained and the meaningfulness of the results. Three major types of problems are those of definition, categorization, and methodology.

The most basic problem is that of providing a precise and operational definition of workload. In what terms should the measurement be taken? Is workload to be defined by the number of courses taught, the number of credit hours taught, the number of students taught, or what? Should one count the number of committee memberships, or the number of hours spent in committee meetings? Which activities should be included and which should be excluded? Should time devoted to professional reading, to attending meetings with local official or businessmen, or to a leisurely friendly lunch with colleagues be included? Questions such as these are discussed in Chapter 3.

Next, problems relating to the designation and definition of the categories used must be resolved. How many types of activities should be specified? What types of activities are of little or no interest? How can the categories be defined in a clear and concise manner that will be uniformly interpreted by all faculty members? What categories and subcategories seem most important? These questions are discussed in Chapter 4.

Finally, there are questions regarding methodology. How should the group to be studied be defined? Should it include teaching assistants, fulltime researchers, parttime administrators? Should one study the entire population or just a sample of the population? What time period should be studied—two weeks, a month, a full year? Should the data be obtained as an estimate before or after the fact, or should a diary be used? What are the advantages of diaries compared to interviews? Whose cooperation is needed? These questions are discussed in Chapter 5.

The Measurement of Faculty Workload

Before a measurement procedure can be decided upon, it is necessary to define what is being measured. To measure faculty workload we must have a precise, preferably operational definition of workload. We need to know which activities are to be included and which excluded. Thus the chapter begins with a discussion of the definitions of faculty workload that have been offered. This will be followed by a discussion of the different kinds of measuring devices that can be used.

The Meanings of Faculty Workload

The central problem in defining faculty workload is that of inclusion and exclusion. Which activities are to be included and which excluded? At one extreme, workload could be defined as the number of assigned teaching hours or their equivalent in other activities. At the other extreme it could be defined as the total of all intellectual and scholarly activities that are in any way related to work at an institution of higher education.

Although the latter definition is extremely broad, the usual definition is generally nearly as broad. As an illustration we may cite the frequently quoted definition of Stickler (1960, p. 80):

> The term "faculty load" . . . includes the sum of all activities which take the time of a college or university teacher and "which are related either directly or indirectly to his professional duties, responsibilities, and interests" (Douglass and Romine 1950). Included are such varied activities as preparation for teaching, actual classroom instruction, making and scoring examinations, reading and grading papers, research and/or creative work, directing graduate theses and dissertations, professional services, guidance and counseling activities, administrative duties, professional reading, committee work, extracurricular activities, and any or all, or any combination, of a variety of other professional activities in which a faculty member normally engages.

In his major "pioneering attack" upon the problem of faculty workload, Koos (1919) distinguished between teaching time and time spent in noninstructional activities. It is these latter activities that cause problems. Everyone agrees that teaching, presentation, preparation, and evaluation are part of the teaching load. As Sexson (1967, p. 219) has put it:

The disagreement centers around such functions as research, professional writing, membership in professional organizations, routine correspondence, committee membership, adviser duties, and sponsorship duties.

Sexson has overstated the case. There is probably little disagreement that such assigned duties as committee membership, student advisement, and dissertation sponsorship could be considered as part of the total faculty load. The problems arise with respect to activities that appear to be more related to personal professional development than to assigned institutional duties.

The problem can be illustrated by an example given by Lorents (1971). He points out that if a data processing manager reads a professional magazine at work, it is part of his job. If he reads it at home, it is professional development, and not specifically part of his job. But faculty members have freedom to spend their professional time wherever and whenever they wish. Where or when a professor reads a journal has no bearing on whether it is part of her job. Thus we must set up criteria other than time and place to determine whether or not a specifc activity is to be considered part of a faculty member's total workload.

Another aspect of the problem was discussed over 40 years ago by Reeves and others (1933). In discussing the meaning of fulltime employment at the University of Chicago they said that theoretically "the entire time and efforts of full-time staff members should be given to the institution" (1933, p. 270). They further said that if you assume faculty members are paid adequate salaries, all outside income resulting from their services should be paid to the university, since, in effect, the university has paid for all of their activities. Such a policy would upset the many faculty members who supplement their salaries through outside teaching, consultantships, and other means.

Where does this leave us? In view of the varying opinions, it will be impossible to define total faculty workload in a way that everyone would find satisfactory. Consequently there will be no attempt to give a broad definition. Instead we shall discuss workload in terms of the categories described in Chapter 4. When categories are used, one can either include or exclude any specific category. The use of categories makes individual definitions possible. If this procedure is followed, it is important to be aware of the categories included in a given study. One also should realize that studies are not comparable unless they include the same categories.

Measures Based on Institutional Data

In theory, these types of measures seem to be ideal. They are readily available from institutional records so that there is no need to query the faculty. The definitions have been standardized so that there are no problems of lack of understanding or use of different definitions. Further, most faculty contracts are based on one of these measures, namely, number of credit hours taught.

In practice, however, these measures turn out to be relatively inadequate, since their use involves several questionable assumptions. For one thing, noninstructional time is ignored. This can only be done if one assumes that noninstructional time is unimportant, that is it a comparatively minor part of workload, or that the amount of time spent on these activities is highly correlated with the number of credit hours taught. None of these assumptions is tenable in the light of data presented later in this monograph. It assumes further that the time involved in teaching a three credit course is the same regardless of the discipline and the course level, an assumption which, as Stecklein (1961) has pointed out, is contrary to common sense.

Since measures of this type are based on untenable assumptions, they are not useful except as supplements to other types of measures. Yet they have been used, and are still used at some institutions, apparently because of their ready availability as well as their seeming meaningfulness. The major measures used are credit hours, class or contact hours, and student credit hours.

Credit Hours. The workload of a faculty member is most often described in terms of the number of credit hours taught. Some schools have a 15-hour load, most have a 12-hour load, some have loads of 9 hours, 6 hours, or even less. As Stickler (1960) has pointed out, it is usually assumed that there is a constant ratio between credit-hour load and total load so that credit-hour load gives a reliable index of total load.

But many studies show that the ratio of total hours worked to credit hours is not constant. In studies by Ayer (1929), Stewart (1934), Michell (1937), Knowles and White (1939), and Woodburne (1958), among others, the ratio of total hours to credit hours varied from 2 to 8. Despite this variability, the use of credit hours has continued. The Ohio study (Ohio, Inter-University . . . 1970, p. 8) put it very well.

> Clearly the conclusion of virtually all studies from 1929 to 1959 was that neither credit hour, contact hour, student credit hours or student contact hours were by themselves, or together, reliable indicators of faculty mem-

ber's workloads. Despite the results of these studies, the convenient descriptive load of fifteen credit hours per week (with an average of two hours preparation and grading for each credit hour taught), has persisted throughout higher education. . . . Junior colleges were pleased when they could, from registrars' records, show a fifteen hour load. Universities argued that twelve was a better number when research and public service were considered. The American Association of University Professors recently recommended that nine be adopted as being more realistic. In short, the use of the "credit hour" as a standard criterion for evaluating an individual's contribution to the work of his university is even less appropriate now than it was ten years ago and it was clearly inappropriate then.

Contact Hours. According to the National Education Association (1972), contact hours rank second only to semester hours as a base for defining load. These are somewhat better than credit hours since they reflect work time rather than the arbitrary time indicated by credit hours. Contact hours include adjustments for laboratories, studios, and courses that meet more or less than the stated number of credit hours. Despite these slight improvements, they share the faults of credit hours, and should not be used as a primary measure of faculty workload.

Student Credit Hours/Fulltime Equivalent (SCH/FTE). This measure has resulted from attempts to improve on credit or contact hours as a measure, while still using institutional data. Investigators such as Durham (1960) and Doi (1961) proposed that faculty workload should be measured as the number of student credit hours per fulltime equivalent faculty member (SCH/FTE). They consider this the best single measure of the efficiency of a faculty member. If this were used as a standard, it would make possible comparisons among different departments, schools, or universities. Of course, as Durham (1960) has pointed out, comparisons can only be made when the data have been collected using similar definitions and similar data collection techniques.

SCH/FTE is particularly useful as an item of budgetary information. One not only can compare ratios between departments and between institutions; one can calculate the costs per student credit hour to indicate relative costs of programs. Durham (1960) cited data indicating that in 1957-58, the comparative cost/SCH for institutions in the Montana system ranged from a low of $3.00 for psychology and philosophy at one school to a high of $95.83 for physical education at another school. At the University of Utah, during the same year, the range was from $4.47/SCH in sociology to $285.00 in radiology. More recent data from other schools show similarly wide variations. How-

ever, as Durham points out, to insist on similar costs for such different courses as sociology and radiology would be stupid.

Even though SCH/FTE is useful in budgeting, it has drawbacks as a measure of faculty workload. As Toombs (1973) has pointed out, it concentrates on the instructional function of faculty, ignoring other activities such as research and administration. Consequently, this too is not a satisfactory measure.

Student-Faculty Ratio. While not generally used as a measure of faculty workload, this ratio is occasionally used as a measure of institutional quality. Yet there is little evidence to indicate it is an accurate measure of either. Ruml and Morrison (1959, p. 10) said:

> The idea that the lower the over-all ratio of students to teachers, the better the quality of instruction is sheer fantasy, although widely believed. Even the assumption that the lower the ratio of student to teacher in particular subjects, the higher the quality of instruction has never been substantiated.

Hicks (1960) characterized this ratio as meaningless and "one of the most misleading indications of faculty load" (p. 9). Toombs (1973) agrees and cites data indicating that the average ratio for 4-year institutions increased from 13.8 in 1955 to 15.9 in 1969. The Carnegie Commission has suggested that it might rise to 25 or 30. Possibly the most reasonable thing would be to adandon the use of faculty-student ratios.

Thus we find that none of the institutional data measures are valid measures of faculty workload. We need to turn to other types of measures to get adequate data.

Measures Based on Faculty Reports

Since the data obtained from institutional records are not adequate, we can either get data through observation of faculty activities or by asking faculty members to report on their activities. Since the observation of faculty members to record their activities is usually not feasible, we are left with the alternative of asking faculty members to report on their activities.

A variety of methods can be used in obtaining such reports. Faculty members could be asked to fill out routine reports of their activities, including their committee memberships, number of students advised, list of publications, list of membership and officership in professional organizations, and public service activities. A questionnaire could be made up and either mailed to them or it could be filled out during an interview. Faculty members could be asked to keep work

diaries, or they could estimate the amount of time devoted to various activities. Finally, a technique of work sampling could be used. (The advantages and disadvantages of each of these techniques are discussed in Chapter 5.)

Two types of dependent variables are used when faculty members are requested to provide information about their work habits. In some studies faculty are asked to report the amount of time spent in terms of hours per week. In other studies, records are kept of the percent of time devoted to each activity. Although the two are interchangeable when one has a measure of the total hours worked per week, there are arguments for and against each procedure.

Stecklein (1961) advocates the use of percentages for specific activities using an hourly estimate only for the total work week. He says that percentages are easier to estimate than are hours, are more meaningful, and make data directly comparable.

On the other hand, as Tyndall and Barnes (1962) have stated, percentages create problems in estimating costs. They cite the example of two teachers who give different sections of the same course, receive the same salary, and devote the same number of hours per week to that course. However, since one works 50 percent more hours per week than the other, he will report a percent time devoted to the course that is only two-thirds of the percentage reported by the faculty member who works a shorter week. This would lead to a conclusion that Tydall and Barnes find unreasonable.

Comparing percentages can be unreasonable if the bases are different. Also, percentages cannot be converted into hours unless a measure of the total work week is obtained. Finally, despite Stecklein's *claim* that faculty time estimates are accurate, the *data* obtained by Ritchey (1959) and Lorents (1971) indicate the contrary.

For these reasons, hours are preferable to percentages. They are more accurately estimated, are directly comparable between individuals, and can be converted easily to percentages. Hours are used as a standard measure in most industries. They can be directly added to one another without weighting. Finally, they are often referred to in both faculty statutes and in collective bargaining agreements that specify the number of hours of teaching, the number of office hours, and, in some cases, the number of hours per week to be spent on campus.

It has occasionally been argued that there should be some measure of effort as well as time. While Koos (1919) considered this a factor, he felt that it was relatively unimportant. Lyons (1970) reported that

the combination of intensity of effort with hours was not perceived by faculty members as being a better measure than were hours taken alone. Thus we find that hours constitute the best single measure of faculty workload and are the dependent variable used in most current studies of faculty activities. But we must remember the admonition of Ritchey (1959) that the number of hours spent does not indicate the worth of an accomplishment.

Workload Categories

The problem of defining categories is basic to any discussion of faculty workload. Carefully considered operational definitions of the categories to be used are needed. Each category must be precisely defined and specific examples given of the kinds of activities included or excluded from each category. If this is not done, the person responding to the survey will be confused and the results will be inconsistent and meaningless.

The number of categories used will depend upon the purpose of the study. If the prime question deals with the percent of total time devoted to teaching, two categories may well be sufficient. Most studies use five to ten categories and some use many more. Miller (1968) identified twenty-five components that represent "duties that any faculty member might be expected to perform as part of his faculty workload" (p 28). An advantage of using a large number of categories is that they can later be combined into clusters of related activities. If a small number of categories are used, it is impossible to break them down into subcomponents later.

A problem in interpreting the literature about faculty workload stems from the idiosyncratic use of workload categories. Consequently, the results obtained at different institutions are seldom comparable. This situation might be improved as a result of faculty activity analysis studies being performed by NCHEMS (Romney 1971; Manning and Romney 1973). Since NCHEMS has a wide impact, and since a goal of the project is the development of a standardized set of categories, one can hope there will be increased standardization in the future. However, to the extent that past behavior is the best predictor of future behavior, one would predict that the categories used in many future studies will be idiosyncratic rather than standardized.

The centrality of standardized categories has been pointed out by many authors including Stecklein (1960) and Lorents (1971). Manning and Romney (1973, p. 29) have said:

> The activity categories, more than any other part of the survey instrument, need to remain unchanged if an institution wishes to exchange any activity information in a manner compatible with NCHEMS recommendations and procedures.

Since the NCHEMS categories were developed after a review of in-

struments used at several different institutions, and since they were designed to be both general enough to fit different types of institutions and extensive enough to enable faculty to easily list all of their professional activities, one hopes they will be widely accepted. The ten categories that are defined appear to be both inclusive and mutually exclusive. The subcategories supply additional flexibility for those who might not approve of every major category. Still, there is, as always, room for dissatisfaction. Subcategories are not listed for all components. Furthermore, some of the distinctions made in the NCHEMS categories (e.g., those relating to different ways of interacting with students) appear to be difficult to make. Consequently, the categories discussed in the present chapter will differ somewhat from those proposed by Manning and Romney (1973) at NCHEMS.

Instructional Time

This category includes almost all of the time devoted to activities directly related to teaching: time spent in class, time spent preparing for class, and time spent in evaluation activities. In some systems of classification it also includes time spent with students in activities directly related to a specific course (Lorents 1971; Manning and Romney 1973). However, as discussed in a later section, it is recommended that this should be included in the category called interacting with students.

In measuring instructional time one could either get an estimate of the total time devoted to all activities related to instruction or one could break the estimate into components, a procedure which has several advantages. Components facilitate comparisons that elucidate the teaching process and the interrelationship of the factors involved. It would be valuable, for example, to obtain data relating the amount of time a teacher spends preparing for class to teaching effectiveness. Also, data on the components would probably lead to more reliable time estimates.

One dimension along which instructional activities can be categorized is based on the types of activities involved. The classification contains subcategories related to time spent in class, in preparation, and in evaluative activities.

Time spent in class. This category includes all time spent in the classroom during regularly scheduled hours. It includes lectures, seminars, discussion sections, quiz sections, laboratories, and studios, as well as time spent in scheduled individual study courses and thesis advisement. Sometimes the activities related to individual study are

separated, as described below. This category of activity is generally defined in terms of hours per week, and will often correspond to the number of assigned hours of credit in the instructor's teaching load. A more accurate measure is based on contact hours rather than credit hours, as discussed previously.

Preparation time. This includes the time spent preparing for classes currently being taught. The specific activities include the preparation of lectures, demonstrations, or laboratory experiments, time spent preparing course outlines and reading lists, setting up laboratories or studios, and supervising course assistants.

Evaluation time. This includes time spent in preparing evaluation materials and in scoring such materials. NCHEMS labels this administration time and includes it with preparation. Lorents (1971) defines this as a separate category, but he included the preparation of evaluative materials under preparation. Basically, this category includes the preparation and grading of quizzes, tests, final examinations, term papers, and other written work. It also includes time spent in preparing written evaluation of students. Although this category may not always be easy to separate from preparation, the distinction is a useful one.

An interesting question concerns the relationship between time spent in class and time spent in preparation and evaluation. Although these related activities are essential aspects of most classroom instruction, we know very little about how much time they consume.

> The traditional idea that two hours outside the classroom are spent for each hour of classroom instruction has a most uncertain ancestry, and appears to be especially open to question when it is taken as a standard for nearly all faculty, regardless of rank and levels and subjects taught. (Stecklein 1961, p. 4).

Some data relating to this question are presented in the chapter describing the faculty work week.

Instructional time also can be categorized by the type of course that is involved. This type of categorization might distinguish, for example, between group instruction and individual instruction, as does Lorents (1971). The NCHEMS system (Manning and Romney 1973) distinguishes among five different methods of instruction: lecture; laboratory; recitation/discussion; seminar, independent study, tutorial; and programmed instruction. Although theoretically these could be combined into a smaller number of categories for purposes of analysis, this is difficult in the NCHEMS system, since multiple coding of each

course is permitted. The distinction between group instruction and individual instruction would seem useful for general institutional purposes, since there may be differing scales of remuneration for these types of activities.

Group or classroom instruction refers to the type of traditional teaching that is predominant on most college and university campuses. Grouped together in this category (although they can be separated) are lecture courses, seminars and laboratory sections. These are courses that meet at regularly scheduled hours and that involve interaction between a teacher and a group of students. This type of instruction accounts for most of the assigned teaching load of most faculty members at most institutions. It is usually measured in terms of an assigned number of semester hours or quarter hours of teaching.

Individual instruction is somewhat more difficult to define and usually much more difficult to measure. It includes readings courses, independent study courses, research courses, honors courses, tutorials, and thesis and dissertation supervision, as well as serving on a committee that evaluates and/or supervises a student's written report. The interaction is either one-to-one or it involves having several teachers meet with one student. Although this type of activity could, in theory, be measured by recording the total number of hours per week devoted to it, the actual measurement is usually not that simple.

In these types of activities there is usually a tenuous relationship between the number of credits and the amount of work performed by the teacher or the student. Often there is no regular weekly schedule. There are apt to be peaks and valleys in the workload, with several hours of the teacher's time being required in some weeks and few hours in other weeks. Despite these problems it is important to obtain accurate estimates of the amount of time devoted to individual instruction. Since one-to-one time tends to be costly, the institution should be able to measure its cost relative to the cost of group instruction.

These complexities indicate that it is impossible to specify the relationship between the number of contact hours and total instructional time or total workload. Despite this, a surprising number of studies refer to standard formulas. For example, Hauck (1969) set up a formula that assigns 1.53 hours per week in preparation time for each hour spent in class. Hauck assigns .10 hour per week for each student and each class hour and claims that this results in a total out of class time that is usually equal to double the number of hours

spent in class. Simmons (1970) allots three times the total number of contact hours as preparation time for each nonrepetitive course taught, "based on the assumption that an adequate job of instruction cannot be done with less effort" (Simmons 1970, p. 34).

Such assumptions and the use of standardized numbers to represent the ratio of total instructional time to contact hours indicate the need for careful studies of faculty workload. All of the data thus far gathered indicate that there is no simple relationship of the type being postulated, but rather that the relationship is complex and is mediated by the factors discussed in Chapter 6.

Interacting With Students

A general category of this type has seldom been used in workload studies. Usually distinctions among types of interaction are made and the time is distributed among categories on the basis of the purpose of the interaction. Interaction concerned with course work is included as instructional time; interaction that involves counseling or advisement is placed in the category of student support service. Such an approach is undoubtedly both meaningful and useful, particularly in studies concerned with accurate cost allocation.

There are also good arguments for keeping the category separate. Theoretically, it is important to be aware of the total amount of time faculty members spend interacting with students. After the student discontent and complaints of the late 1960s we should be concerned with maintaining lines of communication with students and obtaining feedback from them. It has often been pointed out that student-faculty interaction constitutes an important aspect of the education that takes place in colleges and universities. Listing this as a separate category indicates recognition of the importance of this activity. If this were used as a category in a study of faculty activities, it might cause faculty participants to reflect about the role of these activities in their professional lives.

Methodologically, it is often difficult to separate out the amount of time devoted to specific subcategories of faculty-student interaction. A student conference may range over several subjects, including course work, personal problems, and sports. The time spent on each segment of the discussion would be difficult to delineate.

Research, Scholarship, and Creative Activity

This includes all intellectual and scholarly activities engaged in by faculty members. While often not an assigned part of the teaching

load, these are the professional behaviors that presumably distinguish the scholar from the nonscholar. If these activities are overly stressed at an institution, a "publish or perish" attitude results. If they are not sufficiently stressed, the academic reputation of the institution suffers.

Included in this category are all scholarly activities that have as their goal a specific production of one type or another: writing books, articles, or reviews, painting, giving a recital, composing, reviewing the work of a colleague, or conducting scholarly research. Excluded from this category are those activities considered under the heading of professional development, including professional reading or attending workshops or professional meetings. These activities lead to personal intellectual growth but do not lead to specific scholarly outputs. This distinction is usually not difficult to make.

Professional Development

It is hard to provide a precise, operational definition of the activities included in this category. If a broad definition is used, almost everything that a college professor does could be included. A broad definition might account for the finding that most faculty members' claim they work a 55-hour week, while some claim 80, 100, or even 120 hours (Charters 1942; Kilpatrick 1969).

It would seem more appropriate to use a narrow definition that would distinguish between activities directly related to professional growth and activities only peripherally related. Such a definition would include reading books and articles directly related to the profession, attending meetings and conventions devoted to scholarly pursuits, taking courses, and participating in faculty discussions on professional topics. It would exclude time spent reading newspapers and magazines, watching TV, and engaging in general discussions of nonprofessional topics.

Institutional Service

This is another broad category, including everything from general administrative duties, such as correspondence, phone conversations, and paper pushing, to committee and group meetings of all types and sizes. Lists of the components of institutional service on the basis of the types of activity involved usually include from three to five items. The following list of categories is suggested.

Meetings. All committee and group meetings are included in this category, ranging from a departmental subcommittee meeting to a

university-wide faculty meeting. Attendance at institutional functions such as commencements, convocations, and faculty teas could be included in this category. This category should include the ancillary time devoted to preparing for meetings and writing minutes or reports for them. The time spent in meetings of one kind or another adds up to an unbelievably large number of hours per month (Yuker et al. 1972).

Student service activities. Although this category is frequently used, definitions vary. Lorents (1971) includes "all services related to advising student programs and activities, directing student performances, and all other services for the student such as letters of recommendation" (p. 123), and administrative and clerical time devoted to these functions. Many of the things listed belong to the previously discussed category labelled interacting with students. Manning and Romney (1973) include most of the items mentioned by Lorents, but also include interacting with students, meeting their parents, coaching athletics, and directing the orchestra or a play.

This category should be reserved for specific assigned activities related to the area of student services. Thus it would include time spent working in student service offices, such as the dean of students' office, the counseling center, the placement center, the financial aid office, or the admissions office. All nonassigned student-related activities should be placed in the interacting-with-students category.

Other organized activities. This refers to assigned duties outside the academic department not related to student services. Included are assigned activities performed in the library, museum, research center, laboratory school, residence halls, and bookstore. Like the student service activities, this category is restricted to "on-load" activities, that is, activities that are part of the faculty member's contractual assignment.

General administrative functions. This includes institutional service activities that do not fit into one of the other categories. It includes performing the duties of a department head, a dean, a vice president, or any other administrative officer. It also includes activities involved in recruiting faculty or students, keeping records, working on budget preparation, space allocation, and inventories. Much of the paper pushing and telephoning that occurs on the average college or university campus belongs to this category.

As indicated at the beginning of this section, institutional service activities can also be categorized in terms of the institutional level at which the activity is performed. Manning and Romney (1973) sug-

gest the use of a four-level code that seems to provide for all contingencies. The lowest level is the department; the second level is a subunit of the institution larger than a department, such as a division or school; the third level is the institution; and the fourth level is the system for those organizations consisting of several institutions.

Public Service

This category includes all professional activities performed outside the institution; consulting, conducting surveys, holding office in a professional organization or editing a professional journal (these latter might, alternatively, be included in the category of professional development), holding office in a public organization, and giving lectures or speeches to civic groups or the general public. It does not include membership or activities unrelated to professional competence, such as membership in a church or social club, unless these activities are required by the institution.

Since the faculty member occasionally is paid for this type of activity, some institutions label the activities in this category as either paid or unpaid.

Personal Activities

This category is seldom included in studies of faculty workload and is not one of the set of NCHEMS categories described by Manning and Romney (1973). The two main studies in which it has been used are the time sampling studies of Ritchey (1959) and Lorents (1971). The category must be included in a time sampling study because of its nature. Careful reading of the results of these studies should convince one that this category should be included in *all* studies of faculty workload. Ritchey found that close to 8 hours (17.7 percent) of a 44-hour work week were devoted to personal activities.

An alternative to including this category in studies of faculty workload is to assume that all of the time spent on campus and in one's study at home can be considered professional time. It might, however, be difficult to decide how to categorize a long friendly lunch or an hour of pool playing at the university club. If it is decided that these activities should be included in faculty load, they should be measured to determine the amount of time consumed by activities of this type.

Included in this category are friendly conversations or friendly lunches, personal phone calls or errands, reading the newspaper, and

listening to the radio. In placing activities in this category Ritchey (1959) considered the purpose of the activity and classified it in terms of whether it appeared to be related to work or to personal interests, relaxation or gossip. He found that every faculty member in his survey underestimated the time spent on personal activity. Ritchey's approach is a valuable indicator of the surprisingly large percentage of time that a faculty member devotes to personal activities. It would be valuable if comparable time estimates could be obtained for other professions.

Methodological and Procedural Problems

Many procedural questions are apt to arise in the course of planning and conducting a study of faculty workload. Two major studies about this are by Stecklein (1961) and Manning and Romney (1973). In his monograph, Stecklein devoted a chapter to procedures for making a comprehensive faculty load analysis. Although much has been written since, Stecklein's version remains clear, incisive, and comprehensive. It provides insights about problems that arise and suggests ways of dealing with them. A similar function is performed by segments of the manual written by Manning and Romney.

Purpose

One of the first activites in any study of faculty workload should be the preparation of a statement of purpose. Both the procedures used and the extent of faculty cooperation are dependent upon the purpose of the study. Thus the persons conducting the study must specify the questions they are trying to answer and how they intend to use the data obtained.

The statement of purpose should be selected after considering the discussion of the uses of workload data in Chapter 2. Once the purposes have been established, they should be widely circulated, especially among persons who are expected to participate in the study. It would be desirable for representatives of all participating groups to be invited to share in the formulation of the statement of purpose.

Sample and Population

The basic decision involved in sampling is whether one should study the entire set of observations (the population) or whether one should study a representative subset of the population (a sample). An initial question concerns the definition of the population. Who is excluded and who is included? Are teaching assistants, or those who are devoting full time to research, or faculty members devoting 50 or 75 percent of their time to administrative duties or parttime faculty members included? The answers should be determined by the uses made of the data and the purposes of the survey. Stecklein's (1961) admonition that a truly comprehensive study will include all academic staff and all administrative personnel, both full- and part-

time, should be noted. The way that the population is defined will influence the results that are obtained.

The decision to sample the faculty depends upon the size of the smallest group described. If you want to talk about the institution as a whole, or about large segments of the institution, such as schools, sampling would be appropriate. If you want to characterize small groups, such as departments, or ranks within a department, sampling would not be useful. Similarly, sampling would not be useful if you want data on specific individuals.

When samples are appropriate, they have advantages. Since fewer people are involved samples are less expensive and also disrupt fewer faculty members. It is possible to use individual follow-ups on the nonresponders, and sometimes even possible to use individual interviews to validate the data. But samples often are distrusted by both faculty and administration (Romney 1971). Many people disapprove sampling faculty members because they believe that there are so many atypical cases it is impossible to generalize.

If sampling is appropriate, a recent statistics book with a discussion of sampling techniques should be consulted. Alternatively, Athanasopoulos (1968) has provided a good discussion of sampling techniques in faculty time studies.

An undesirable sample can result when not everyone responds to the survey questionnaire. While some faculty members are interested, respond willingly, and are honest in their replies, others respond unwillingly, if at all, and either consciously or unconsciously distort their replies. What are the nonresponders like? Do they work more or less than those who respond? If the response rate is much less than 100 percent, one can have little confidence in the validity of the data.

Time Period Covered

Another question to be decided during the planning of a faculty workload study concerns faculty time covered by the study. Should faculty members be asked to describe how they spend their time for a period of a week, a month, a semester, or a year? The time covered by the study should be the shortest period that will yield accurate data. A study covering a short time period will probably be considered less an encumberance than a study covering a longer period.

Many studies have used periods of one or two weeks, assuming that this was a typical period, but this assumption is questionable. To the extent that faculty members develop routine work habits, they will work the same number of hours at the same tasks week after week.

But there are often atypical weeks that can distort survey results. Data indicate that there are large week-by-week variations. Ritchey (1959) plotted data on a weekly basis for a full semester and found that the percentage of total time devoted to teaching ranged from about 36 to 50 percent, with an average of 42 percent. This average figure was not obtained for any single week during the semester! Administrative time varied between 12 and 21 percent. This study vividly documents the difficulty, if not the impossibility, of finding a typical week or two.

Thus it is desirable to study a quarter or a semester, since shorter periods can be misleading (Now 1963; Ritchey 1959; Stecklein 1961). Stecklein suggests that data should be collected covering an entire academic year, with separate estimates obtained for each quarter or semester. Ideally, data should be obtained continuously in order to monitor the changes that occur over time.

Time of Administration

Faculty members can be questioned concerning their work patterns either prospectively, concurrently, or retrospectively. Each method has been used and each has advantages and disadvantages.

In prospective data collection the faculty member is asked at the beginning of a semester to estimate how much time he expects to spend on specific activities during the coming semester. The estimate will probably be based on past experiences, possibly modified as a result of changed circumstances. This method is similar to retrospective data collection, sharing most of the advantages and disadvantages discussed below. There is an additional complicating factor, however. The individual who prospectively estimates his expenditures of time may either consciously or unconsciously conform to those estimates, which could be either good or bad.

Although concurrent data collection presents some problems, it would seem to be the method of choice. In this method, the data are collected either while the activity is going on (as in work sampling) or soon thereafter (as in the use of logs or diaries). Problems due to faulty memory are minimized. Most people can remember what they did during the past 24 or 48 hours even though they may not be able to remember what they did last week. The major problem with the method is that it is bothersome and time consuming. To fill out a diary or a log daily or weekly for a year can be quite a chore.

Retrospective data collection is very often used and is the method advocated by Stecklein (1961). Lorents (1972) has pointed out that the

method usually involves the distribution of a questionnaire at the end of a semester or quarter. The faculty member is requested to estimate how he spent his time during this period. Stecklein admits that there may be problems stemming from faulty memory, but does not consider them important. However, problems of memory could seriously distort the data obtained in this fashion. Because of this, it is important to obtain the data as soon as possible after an event occurs.

Two sampling studies dealt explicitly with the relationship between faculty estimates of time spent on various activities and objective measurements of the time spent. Ritchey (1959) compared self-perceived activity with observed activity and concluded that "this correlation was only fair—not that it could be expected to be otherwise" (p. 248). He found that the most accurate estimates were made of the time spent in classes. The least accurate estimates were of the time spent in personal activity during regular school hours; the average observed value was more than double the estimate of 7.2 percent. Data such as these indicate that time estimates are often inaccurate.

Lorents (1971) also compared estimates with objective data. He found that estimates were close to the data in some categories but were divergent on other categories. He concluded:

> It has been shown that estimating can differ significantly from the data derived from self-sampling on some categories. Consequently, parameters derived from estimates must be used with caution, and cannot be used with confidence when they are used in planning models (Lorents 1971, p. 198).

Faculty responses should be treated as estimates, rather than as accurate indicators of actual time expenditures.

Data Collection

Several techniques can be used to collect faculty workload data, including analysis of data from institutional data banks, and the use of questionnaires, diaries, interviews, or work samples.

Institutional data. Although much of the data needed for a thorough faculty workload study will not be available from the university data bank or from other institutional records, it is usually desirable to obtain as much information as possible from these sources. Information obtained from these sources often has a high degree of accuracy. The more information that is obtained in this manner, the less will be needed from the faculty member. As Rom-

ney has said, "If it is accurate and current, data that are available from other sources should be obtained from these sources and should not be sought from faculty members" (1971, p. 45).

Questionnaires. It is generally agreed that these are the most used methods of data collection for faculty load studies. The questionnaire can either be unique to the institution using it or it can be standardized. Stecklein (1961) gives advice on questionnaire construction and argues for a special form unique to each institution. He suggests that the forms should be short, only three or four pages in length, and relatively uncomplicated and uncluttered in appearance. The form should be sufficiently adaptable so that faculty members will feel able to report all activities without encountering major problems in categorization. As Romney has pointed out, however, this flexibility can lead to problems in coding and analyzing the data. The more distinctive responses there are, the more difficult the analysis becomes.

A more standardized, cross-institutional approach has been developed at NCHEMS (Romney 1971; Manning and Romney 1973; Manning 1974). Their approach, termed faculty activity analysis, is designed to develop standardized techniques for data collection and data analysis. The data collection technique described by Manning and Romney is designed to be applicable to a wide variety of institutions. Each institution can adapt the questionnaire to its own needs, but any changes that are made, however slight, may lessen the comparability of the data.

The reliability and validity of each technique is discussed in a section at the end of this chapter. The cost of this technique will be comparatively low, but will depend on whether the questionnaires are mailed to faculty members or are administered in small groups. The latter approach is advocated by Manning and Romney (1973), particularly the first time the questionnaire is administered.

Diaries. While diaries and time logs have not been used often, they have much to recommend them. A major advantage of these techniques is the accuracy of the data obtained. If a faculty member keeps a conscientious record of how he spends his time, recording activities daily, the resulting data will be the most accurate of any of the techniques. Even if the data are not entered as often as they should be, they will probably be more accurate than other modes of data collection, both because the time between the event and its recall is short and because of the necessity to fit activities into specific time periods.

There are also problems with this technique. The major problem is that of negative faculty reaction and unwillingness to take the time and effort to complete a diary. This negativism is particularly acute if the faculty member is requested to continue the diary over other than a short period of time. The most extensive use of diaries was conducted in England in 1969-70, a study described in detail by Lorents (1971, p. 65) and critically discussed by Balfour (1970). Three 1-week diaries covering different periods were requested. About 90 percent completed the first diary, 50 percent the second, and 40 percent the third at one institution reported by Balfour (1970). With high return rates and honest answers, this technique can yield very accurate data.

Interviews. While this technique could be useful, it is seldom used. It is the most expensive and time-consuming of the techniques, but has a number of advantages. For one thing, the response rate tends to be high. People may not fill out and return questionnaires, but most faculty members find it difficult to avoid talking to an interviewer, particularly one who has the backing of the university administration. A second advantage is the opportunity to specify exactly what information is sought, and to clarify unclear answers on the part of the respondent. Romney advocated the use of interviews as a useful technique for following up and validating the results obtained from questionnaires. Actually, except for the differences discussed above, interviews are similar to questionnaires.

Work Samples. This technique has been widely used in industry but has seldom been used in studying faculty activities. Ritchey (1959) and Lorents (1971) both used a time-sampling technique that appeared to work well. The study by Ritchey involved twenty faculty members in one department, each of whom participated for an entire 16-week semester. During a 44-hour work week each faculty member was contacted four times a day at random intervals and asked to describe what he was doing at the time. A total of 330 observations were collected on each individual. To determine time use after regular hours, 20 days were randomly selected and the faculty member was required to report, after the fact, what job-related activities he engaged in. Ritchey demonstrated that the technique was feasible for use in higher education, claiming that it was useful, easy to administer, accurate, inexpensive, and dependent only on faculty understanding and cooperation.

Despite his success and his advocacy of the technique, it apparently was not used again until it was adopted by Lorents in 1971. Lorents

used an electronic device that had been programmed to "beep" at random intervals. When he heard the beep the faculty member was supposed to record what he was doing at the time, using a predetermined set of categories similar to those used by Ritchey. Lorents estimated that each recording would take about 30 seconds and that the total time per week would not exceed 30 minutes. He found that his respondents preferred the work-sampling procedure to questionaire estimates of the time devoted to various types of activities. Lorents concluded that a time-sampling technique such as the one he used is feasible if the electronic mechanism is not bulky. He said that faculty members should be sampled about eight to ten times during an 8-hour day, and that the time period covered should be 3 or 4 weeks.

Summary. Questionnaires appear to be a much used and very viable technique for obtaining data on faculty workload. The work being done at NCHEMS (Manning and Romney 1973) has provided a very useful standardized instrument that can be used at many institutions. Work sampling appears to be a good alternative, but is not much used, possibly because of its seeming complexity.

Cooperation

In a successful study of faculty workload one must obtain the cooperation of the faculty, department chairmen, deans, and departmental secretaries. If faculty members are willing to cooperate, they will supply accurate data; but if the cooperative attitude is lacking, the return rate will be low and the data will be of questionable accuracy.

Some faculty members view a study of faculty workload with distrust and resentment. As Lorents (1971) and Balfour (1970), among others, have pointed out, faculty members are not used to being asked to report on what they do. As a group they tend to place high value on the flexibility of an academic schedule and the amount of freedom it allows. They want to choose their own time to work without having to provide an hourly report of their activities. Some may view this type of study as an infringement of academic freedom.

It is thus incumbent upon anyone who conducts a study of faculty workload to try to induce positive, cooperative attitudes among the faculty. There are several things that one can do to achieve this goal. Probably the most important is to explain the purposes and uses of the survey to the faculty in a nonthreatening manner. As Stecklein (1961) has pointed out, it is desirable to set up a faculty ad-

visory committee to participate in the planning and the execution of the study. In these days of faculty unionization, it is important to get the union to agree to the study. Having meetings of departments to discuss the study can also be helpful in eliciting cooperation. It is helpful if the request for cooperation comes in a letter from the president rather than from the office of institutional research. It is also helpful to follow the rules of questionnaire construction described earlier. Finally, it is desirable to tell the faculty that they will be informed of the results of the study.

Accuracy of the Data

This is the key consideration in any study of faculty activities. Technically, the accuracy of a set of data is determined by obtaining measurements of reliability and validity. For purposes of faculty activity analysis, reliability may be defined as the extent to which similar results would be obtained if measurements were taken at different time periods. The reliability of the data depends on the clarity of the category definitions, the length of the time period studied, and the representativeness of the time period studied. While there have been few studies of reliability as such, the consensus of persons familiar with the literature appears to be that most methods yield data that are relatively reliable, although not necessarily valid.

Validity in faculty workload studies may be viewed as the degree to which the reported time distribution of a faculty member corresponds to the way in which the time was actually spent. This is much harder to determine. And, unfortunately, there have been few validity studies, although there have been discussions of the topic. Romney (1971), for example, has said that the validity of data obtained from questionnaires is not always acceptable, and it is higher if diaries, interviews, or work samples are used.

A major reason for concern about validity relates to the accuracy of self-reported data. To what extent will a faculty member try to make it appear that he works harder than he actually does? What percentage of faculty members either consciously or unconsciously distort their reports?

Validity may also be lowered as a result of inaccurate perception. Although Stecklein (1961) has said that estimates are fairly accurate and tend to agree with diary records, the data gathered by Ritchey (1959) and Lorents (1971) do not support this conclusion. Their results indicate discrepancies between data obtained through time sampling and data obtained through questionnaire estimates. When

there are discrepancies, data obtained through time sampling would probably be considered most valid, diary data would rank second, and data obtained through interviews or questionnaires, both of which require retrospective estimates, would be considered least valid.

It is clear that additional studies of the validity of faculty load data are badly needed. While many techniques might be used, an adaptation of the method of convergent validity described by Campbell and Fiske (1959) would seem to be most appropriate. Data regarding the workload of faculty members should be obtained by several different methods (e.g., diaries, questionnaires, and work samples) as was done by both Ritchey (1959) and Lorents (1971). Data should also be obtained from alternative sources, such as the department chairman, departmental colleagues, and the faculty member's spouse. It is recognized that there might well be loud outcries at the use of such techniques to "check-up" on the individual, but they represent the best way to verify the validity of the data.

Some of the techniques suggested might be less objectionable than others. While a faculty member might resent having another faculty member talk about how he spends his time, he might be willing to discuss his questionnaire results with his department chairman (Stecklein 1961). Romney (1971) suggested a procedure in which the department head completes the activity forms for every person in the unit, and then asks the faculty member to review the accuracy. Either of these approaches will serve to increase the validity of the data.

Thus, both in planning and in conducting a study of faculty workload, one must pay continuous attention to the accuracy of the data that are obtained. Accuracy can never be guaranteed, but careful attention to the topics discussed here should help to maximize the reliability and validity of any data that are obtained.

Factors That May Influence Teaching Load

The crucial word in the title of this chapter is "may." Here we must try to distinguish fact from fiction, theory or logic from evidence. We must examine current practices to determine the extent to which they conform to the data.

The literature contains many statements of factors that influence teaching load. Only a few articles cite data justifying the presumed influence, with most appearing content merely to assert the influence. The American Association of University Professors (1970), for example, discusses four factors that should be considered when departing from the common 12-hour, 9-hour, or 6-hour teaching load policy: the number of course preparations, introduction of a new course or substantial revision of an old course, differences in scope or difficulty of the course, and class size. Other factors frequently cited as influences on workload include the level of the course, the specific subject field, and the amount of previous experience with the course.

Class Size

The question of the influence of class size upon teaching load is controversial. There are many opinions and few data. In general, the opinions tend to state that class size is an important influence on teaching load. The data tend to be equivocal, with many commentators indicating that even when there is an effect, it is not particularly strong.

In one of the early studies, Koos (1919) concluded that size was a factor, although he admitted that his data were weak. Reeves and others (1933) correlated class size with a faculty member's estimates of the time and energy required by a course. With a total of 425 courses they obtained a coefficient of correlation equal to $+.18 \pm .03$, and concluded that since the correlation was low,

> in general the size of the class is a small factor in the determination of the percentage of the faculty member's time and energy which he devotes to class teaching . . . [and] teaching load generally is not materially influenced by the size of the classes for which the faculty member is responsible (p. 153).

There are few other studies that obtained data about this question but there have been many expressions of opinion. Caplow (1960)

pointed out that a man who teaches 600 students does not work 6 times as hard as one teaching 10 students; he may work less because of assistance in grading papers, and so forth. But Bailey (1968) said that talking to 200 students is quite different from talking to 25 students, and his opinion appears to be more popular. Sexson (1967) reports that all 75 of the institutions he surveyed agreed that large classes require more time. Despite this unanimity, the data do not support this assertion.

The lack of evidence of a relationship between class size and time devoted to teaching has had little influence on those who set up formulas aimed at specifying faculty workload. Many formulas designed to equate teaching loads among the members of a faculty consider class size as a factor in the formula (e.g., Foothill 1966; Hauck 1969; Howell 1962; Miller 1968; Sexson 1967; Sheets 1970; Young 1964). Most of the formulas use arbitrary figures to allow for class size (see the section on workload formulas later in this chapter).

Rather than trying to generalize about the effects of class size, we should examine the variables that mediate its effects. We should ask questions concerning the effects of class size on the amount of time that the instructor spends in class, in preparing for class, in grading papers, in talking to students. (1) The amount of time spent in class is obviously independent of class size. The amount of effort or energy expended during that time may vary. However, we had earlier decided not to consider effort as a variable. (2) The amount of time spent in preparing for class might vary as a result of class size. A teacher who typically conducts small classes as informal discussion groups that require little preparation might spend much time preparing organized lectures for a large class. On the other hand, an instructor who usually lectures might use the same lectures for small or large classes. (3) The amount of time spent in grading papers will often vary with class size, but the relationship could be negative as well as positive. Individuals who teach large sections are often given graduate assistants or paper graders to help with these chores. In such a case the instructor might well devote less time to paper grading than does an instructor with a much smaller class. Furthermore, the instructor might change the course requirements, might not require term papers, or might convert from essay type tests to multiple choice tests. (4) The amount of time spent interacting with students is a complex variable whose effect on class size is difficult to predict. The most important influence is probably the personality and attitude of the instructor. Some instructors would probably spend little time

interacting regardless of class size. Others would probably spend as much time interacting as previously, although less time might be devoted to each student. Thus the effect of class size on the amount of time that the instructor spends interacting with students is hard to predict.

Based on the limited data and the unlimited opinions, several conclusions concerning class size can be drawn. Despite its popular use in many workload formulas, and despite the popular belief that class size is an important determinant of workload, it should *not* be considered as a major influence on faculty workload. The effect of class size will vary from course to course and from teacher to teacher. The emphasis to be given to class size is an empirical question that should be determined separately for each course and each teacher. The number of hours devoted to preparation and grading in different size classes should be measured directly rather than inferred from arbitrary formulas.

Course Level

Course level is often assumed to be one of the most important influences on faculty workload. The usual assumption is that upper division courses are more difficult to teach than lower division courses, and that graduate courses require the most time and effort. Many institutions explicitly take this into account by giving persons who teach graduate courses fewer credit hours of teaching.

But the evidence is not clear. Stickler (1960, p. 88) suggests that "conflicting conclusions characterize studies regarding the effects of level of instruction on faculty load." Koos (1919) and Kelly (1926) concluded that course level is an important factor. On the other hand, Reeves and others (1933, p. 182) present data indicating that there is a steady *decrease* in the amount of time and effort devoted to a course as one increases the course level. This inverse relationship has been asserted many times. Stickler (1960) has quoted John Dale Russell as having said that graduate courses require less preparation time and are much easier to teach than undergraduate courses. He did not add that many professors find them more stimulating as well.

The differences in assumptions with respect to the influence of course level are reflected in the workload formulas. Some formulas weight all courses equally, regardless of level, while Hill (1969) used a formula that gave graduate courses four times as much weight as undergraduate courses.

These discrepancies in data and opinions result, at least in part,

from subject matter differences and differences in the teaching styles of individual professors. As the AAUP's (1970, p. 31) statement on faculty workload notes, "in some subjects the advanced course is the more demanding; in others, the introductory course." Thus, we can conclude that course level *per se* should not be considered a major determinant of faculty workload.

Mode of Presentation

In 1960 Stickler said that the research findings in this area are very limited. Unfortunately, that is still the case. It would seem reasonable to assume that a lecture, for example, might take more preparation time than an unstructured class discussion of a topic decided at the start of class. In his proposal for a specification of faculty workload in terms of actual hours per week devoted to different activities, Hodgkinson (1973) suggests that a studio course might involve 4 hours, a seminar course 5 hours, and a science lab plus lecture would take 7 hours. While the hours were only intended to be illustrative, they support the concept that mode of presentation does make a difference.

The one major study of the effect of this factor was, as usual, the 50-year-old study of Koos (1919). He found mode of presentation to be a very important factor. Koos set up ratios that indicated how many hours were required in total for a 1-hour class. His ratios ranged from a low of 1.17 for field work (i.e., 1 hour of field work and .17 hour of preparation time) to a high of 2.98 for a lecture (i.e., 1.98 hours of preparation).

There appear to have been no other studies of the influence of mode of presentation. Thus, at most institutions, despite Koos' findings, mode of presentation has been ignored. All 1-hour classes are considered equivalent, whether they involve student recitations, seminars, discussions, or lectures. The one distinction made in the past was the respect of laboratories. For many years two laboratory hours were considered to be the equivalent of one teaching hour (Kelly 1926). This ratio has been gradually eroding, and at many schools laboratory hours are now considered equal to teaching hours. In fact, in Miller's (1968) workload formula, laboratory hours are given 20 percent more weight than lower level courses.

Thus, good research into this problem is badly needed. Current practice diverges from both theory and the research data presented by Koos. We shall not be able to adjust workload for types of presentation until we have good data on which to base our decisions.

Subject Matter

Most institutional policies do not consider differences between subject fields as an important component of faculty workload. Teaching load schedules tend to be uniform throughout departments of a university, with the exception of professional schools such as medicine or law.

This assumption of the equivalence of different disciplines is directly contradicted by many studies. As Stickler (1960, p. 86) said:

> There is a good deal of evidence to show that different amounts of time are required for adequate preparation and effective teaching of different subjects.

Although the results have not always been consistent in specifying the time required by different disciplines, every study has indicated that there are differences based on subject matter. In the more extreme cases, some subjects required more than three times as much as others (Stewart 1931).

Thus subject matter has been demonstrated to be an important influence on teaching load. But unlike course level, whose influence has *not* been demonstrated, this influence is not considered in setting institutional policies. Careful studies would enable this factor to be given proper weight. As Richards (1950) has suggested, teaching load should be determined by a consideration of the ratio of out-of-class work to clock hours of instruction. Use of this technique would allow for other factors as well as subject matter differences.

New Preparations

It seems reasonable to assume that the first time a person teaches a course, more time will be devoted to preparation than will be devoted to subsequent presentations for the same course. Some institutions recognize this by giving reduced loads to individuals who are preparing a new or special course. But the assertion by Sexson (1967, p. 220) that "all institutions [assign] a lighter load to new instructors during their first year" is questionable.

Although the research data are limited, they tend to support the assumption that initial preparations require more time than subsequent ones. Koos (1919) found the time required for the first presentation was higher, particularly for certain modes of presentation. Approximately 70 percent more time was devoted to the first lecture presentation than to subsequent ones. The comparable figure for a seminar was 60 percent, mixed lecture and discussion 33 percent, recitation 11 percent, and laboratory 9 percent.

Data comparing presentations subsequent to the first do not seem to be available. While one might assume that the second and third preparations might also require more time than subsequent ones, a levelling off point is probably reached relatively quickly. McMullen (1927), however, reported that there was no relationship between the number of years of experience in teaching and the time spent in daily preparation. Also, the finding by Koos that there were no differences between ranks in the time devoted to course preparation is pertinent if we assume that rank is highly correlated with the amount of teaching experience.

Thus, in this case, data and theory coincide. We can assume, even though the data are limited, that new preparations and extensive revisions of older courses take more time than preparation of a course that has been repeatedly taught. This factor should undoubtedly be considered as a component in faculty load. And, as stated by the AAUP (1970, p. 31),

> This is a matter of institutional self-interest as well as of equity; if the new course has been approved as likely to strengthen the institution's program, all appropriate measures should be taken to insure its success.

Number of Preparations

It is generally assumed that number of preparations is an important aspect of teaching load. It would appear to require less time to teach several sections of the same course than to teach an equal number of sections of different courses. This assumption is manifest in several workload formulas.

Surprisingly, Koos (1919) reported that this was not the case. His data indicated few consistent differences between the two types of preparation. Furthermore, in some cases instructors devoted more time per section to repeated sections than to nonrepeated ones. This result could be an artifact of the institution that was studied, since the assignment of repeated sections was discouraged at that university.

Although only eight cases were cited in the data presented by Reeves et al. (1933), the conclusion was similar: a second section of a course requires approximately the same amount of time as the initial section. The authors stated that while the evidence was not conclusive because of the small number of cases, "there is not a material reduction in teaching load when two sections of a single course are substituted for two separate courses" (Reeves et al. 1933, p. 192).

Thus we again find that the data fail to support a commonly ac-

cepted assumption. Although more data are needed, we should accept the results of those studies that have been made, and it should not be assumed that teaching repeated sections of a course automatically results in a lighter teaching load than teaching an equal number of different courses.

Workload Formulas

The literature contains many descriptions of faculty workload formulas. The purpose of a formula is to develop equivalencies between such diverse tasks as teaching a course in freshman composition to 20 students, conducting a graduate seminar discussion with three Ph.D. candidates in history, supervising an advanced level chemistry laboratory, and serving as a reader on a doctoral dissertation committee.

Some of the formulas are simple, involving few components and minimal weighting. For example, Hauck (1969) and Hill (1969) used formulas with five components. Banks (1963) used ten factors and developed appropriate weights for each factor. Henle (1967) used 20 variables as components of an individual's activities index. Miller (1968) defined the load of a faculty member as the sum of 25 different components and presented formulas for specifying the values of each of the components. These and other similar formulas are presented in varying degrees of detail by Miller (1968), Lorents (1971), and Romney (1971).

Workload formulas differ greatly from one another with respect to both the definition of the components that are included and the specification of the weight of the components. While one might expect some differences among institutions, one would hardly expect differences of this magnitude. As an illustration, consider the relative weights assigned to graduate level courses compared to those assigned to lower level undergraduate courses. In those formulas that assign different weights, assuming that the lower level undergraduate courses are assigned a weight of 1.0, Howell (1962) used a weight of 1.5, Banks (1963) used 2.0, Hill (1969) used 4.0, and Miller (1968) weighted regular graduate courses 1.4 and new graduate courses 2.5. Even if the weights were based on data rather than theory, divergencies this great would seem difficult to justify.

The many differences among the formulas should make one skeptical about their utility. This skepticism should be increased when one considers that many of the formulas use components that have been shown in the discussions earlier in this chapter to be questionable

components of workload. Further it should be pointed out that formulas ignore differences both among faculty members and among different courses on the same level. For all of these reasons, workload formulas should be examined very critically before being adopted.

Total Faculty Workload

In this chapter we come to the heart of the issue. How hard do faculty members work? Does college teaching require more than 40 hours per week? Or does the typical faculty member have an easy life, teaching only 6 hours a week, 30 weeks a year?

The data presented must be evaluated in the context of the earlier discussions. The reliability and validity of the data will depend on the ways the data were collected. The length of the faculty work week will depend on which workload categories were included and which excluded. As the data will indicate, differences among faculty members tend to be much greater than the similarities.

The Work Week of Faculty Members

One of the primary questions asked concerns the total number of hours per week that the typical faculty member works. To the outsider, and even to some insiders, the faculty work week seems unbelievably short. If one asks how many hours faculty members "teach" per week, the answers usually range between 3 and 15, with modal points around 6 and 12. To a nonfaculty member this seems very little. And when you consider that the typical school year in higher education is about 35 weeks long, the workload seems very low. Perceptions such as these probably account, at least in part, for the fact that an increasing number of state legislatures are passing laws defining minimum workload standards for faculty teaching in public institutions (Bogue 1972).

Studies indicate, however, that most faculty members *say* they work more than 40 hours a week. A review of over one hundred studies (Ohio, Interuniversity Council of, 1970) concluded that faculty members typically work more than 50 hours per week. Thompson (1971) has said that some of the more recent studies cite figures close to 60 hours per week. We can compromise and conclude that, on the average, faculty members claim that they work approximately 55 hours per week during the academic year. Figures close to this have been cited in study after study at many different institutions, which would seem to provide evidence of convergent validity. However, many persons question the accuracy of this figure, including some faculty members.

Thompson (1971) cites external data that support the claim that

faculty members work long hours. Studies (e.g., de Grazia 1962) present data indicating that executives and professionals work 50 to 60 hours per week if one includes peripheral activities. Data are cited by Thompson indicating that academic persons employed in non-academic settings work about 5 hours per week more than their colleagues. Finally, he pointed out that most faculty members, like executives, professionals, and others engaged in work that is relatively independent of time and place "seldom put their work aside" (Thompson 1971, p. 4).

The data confirm that faculty members, on the average, work about a 55-hour week. This is true only during the academic year, however. If the total number of hours were spread over a 48-week year with a 4-week vacation, it would amount to approximately 49 hours per week (if we assume a 35-week academic year).

In discussing this conclusion with my colleagues, I have gotten a bimodal reaction. Some react with disbelief and question the validity of the data. Members of this group state that the "typical" faculty member works a maximum of 35 to 40 hours per week, and that many faculty members work less than 30 hours per week. A second type of reaction is that the data represent the true state of affairs. Persons in this group maintain that most faculty members they know work 50 to 70 hours per week. They further tend to complain about the extent to which faculty members in general are overworked.

The Expected Work Week

How many hours per week faculty members are expected to work is a difficult question. Faculty contracts, faculty statutes, and even collective bargaining agreements usually define faculty workload in terms of courses to be taught and other activities to be engaged in, rather than in hours per week. Thus expectations regarding the total number of hours to be worked must come from other sources.

In the midtwenties Kelly used as his standard the "forty-five hour week common to many lines of union labor" (1926, p. 282). Assuming that this was the figure commonly used, it might help to explain the prevalence of the 15-hour teaching load for many years, as well as the concept that 2 hours of preparation are required for each hour in class. The drop to a 12-hour teaching load could then be seen as paralleling the decrease in the typical U.S. work week from 45 to 40 and currently 35 hours. A workload of 12 class-hours corresponds to a work week of 36 hours if one assumes 2 hours of prepa-

ration for each hour spent in class. But with these ratios one could not rationalize a total load of two graduate courses that meet for 1.5 hours per week each.

This expectation of a short work week is verified in data reported by the National Education Association (1972a). They reported that a survey of 418 public junior and community colleges revealed expectations of a median of 30-hours work per week. Only 27 percent of the institutions expected their faculty members to work 40 or more hours per week, and less than 3 percent expected 50 or more hours of work per week. Interestingly, a 30-hour work week was assumed by Hodgkinson (1973).

There are few data indicating what faculty members consider as a full teaching load. McElhaney (1959) reported that they considered about 42 hours to be a reasonable work week. He also reported that 20 percent of the respondents in his survey said that faculty appointments should not be regarded as fulltime responsibilities. Perhaps many of them would agree with Simmons (1970) who assumed that a faculty member is paid to work only 40 hours per week. Simmons listed several activities related to teaching or administrative work, excluding research, public service, and others, that take up a faculty member's time. He then calculated that, assuming a 40-hour week, a fulltime faculty member should have 7 contact hours of teaching.

On-Campus Versus Off-Campus Work

One characteristic of college teaching as a profession is the freedom it affords with respect to work time and work place. Except for scheduled class hours, a professor can work as many or as few hours as he wishes. Many activities (for instance, preparation for class, scholarly writing and reading, grading papers) can be done either on or off campus.

Consequently faculty members may put in a substantial number of their working hours in off-campus settings. Ritchey (1959) reported that 10.8 hours (20 percent of total work time) were spent on university business during other than business hours. He defined business hours as a 44-hour week: 8 to 12 and 1 to 5 on Monday through Friday, and 8 to 12 on Saturday. At many colleges and universities some faculty members only have classes on 2 or 3 days a week, and do not appear on campus on the other days.

Time spent off-campus is often a cause for suspicion and sometimes causes resentment. A person who spends much time on campus is seldom chastized, even though he may fritter time away. But the

individual who spends little time on campus is often suspected of either not being a hard worker or of having well-paying consultantships. Many faculty members do a substantial part of their work off-campus, which may help to account for the skepticism with which some people view claims of a long work week.

Individual Differences

The data indicating that faculty members work 55 hours a week refer to averages. The data also show large individual differences. While few studies present frequency distributions or report measures of variability, those that give data uniformly reveal the wide range in the number of hours worked. As early as 1919 Koos reported that although the typical faculty member said that he worked an average of 8.5 hours per day (in a 5.5-day week), the range was from 4.0 to 14.9 hours per day. More recently, Thompson (1971) reported that at the University of Washington faculty reportedly work an average of 58.3 hours per week, with a standard deviation of 10.6 hours. Other data cited by Thompson indicated standard deviations of approximately 10.5 hours at the University of California and 18 at the University of Minnesota.

A normal distribution of working time consisting of a national average of 55 hours per week with a standard deviation of 12.5 hours per week would indicate that two out of every three faculty members work between 42 and 68 hours per week during the academic year, and that 95 percent of all faculty work between 30 and 80 hours per week. To many, these ranges might seem reasonable, particularly if workload is defined as consisting of all of the components discussed in Chapter 4, including on-campus time devoted to personal activities.

Individual differences in the number of hours worked per week by different faculty members have been documented. The pervasiveness of these differences is apparent to anyone who spends time on a college campus. Still, these differences are often ignored. As indicated earlier, most studies do not cite data relating to variability.

Differences Among Disciplines

In the last chapter, data were reported indicating that there are sometimes large differences in the amount of time needed to prepare and present courses, and one important influence on these differences was the subject matter.

Many studies have documented differences between disciplines (Kelly 1926; Stewart 1934; Knowles and White 1939; Thompson

1971; Wattles 1971). Unfortunately, the results have not always been consistent from one study to the next. While it was tempting to try to construct a table indicating which disciplines seemed on the average to require comparatively little time and which seemed to require much time, such an enterprise would be futile. Although differences among disciplines exist, they are probably relatively small compared to differences among individuals. While English composition courses require more time than most courses, and some schools assign reduced teaching loads to persons teaching such courses (Snepp 1968; Wilcox 1968), there are many ways of grading a 500-word essay. Some teachers do it in 3 minutes while it takes others 30 minutes. There also are differences in the number and length of assignments. Thus differences between disciplines probably can be ignored if differences between individuals are considered.

Differences Among Ranks

Only two studies relating to this variable were located and they yielded divergent results. Koos (1919) found that there were no differences between ranks in the amount of time spent in course preparation. On the other hand, Thompson (1961) reported that there was a decrease in total weekly time with an increase in rank. He reported that assistant professors worked an average of 60.2 hours per week, associate professors 57.8, and full professors 56.6. These differences are small compared to individual differences.

Differences Among Institutions

There appear to be differences among institutions. The extent of these differences is hard to assess since data reported by different institutions are seldom comparable due to differences in definitions and methodology as well as a lack of standardized approaches. Still, differences have been found among the several campuses of a statewide system (e.g., Lins 1971). If differences are found within various units of a state system, even larger differences could be expected in comparing other state systems or other individual institutions. This conclusion is reinforced by a recognition that assigned course loads vary greatly from institution to institution. At some colleges and universities a full teaching load is 6 hours per week (for at least some faculty) while at others the load is 30.

Differences among institutions in the amount of time faculty members devote to research was documented by Orlans (1962). He reported that one-third of the faculty in liberal arts colleges spend no

time doing research, compared to 10 percent of the faculty in universities that receive large amounts of federal support. Thus we find that there are differences among institutions with respect to both the length and the components of the work week.

The Distribution of Faculty Work Time

The variations are as great in the way that work time is distributed as in the length of the work week. These differences are reflected in the time devoted to instruction and research as well as in individual differences.

Time Devoted to Instruction

Many studies have reported the percent of the total work time that is devoted to instruction. These figures vary from a low of about 40 percent (Wilson 1942; Ritchey 1959; Orlans 1962; Lorents 1971) to a high of about 70 percent (Parsons and Platt 1969; Stickler 1960; Bayer 1973). These figures will be more meaningful if we examine the covariance of specific factors in relation to the amount of time devoted to instruction.

The institution at which the faculty member is employed is one such factor. Teaching loads differ from institution to institution and are related to the type of institution. Institutions vary in the emphasis placed on teaching, depending on whether they emphasize teaching, research, or public service.

These differences have been documented. Wilson (1942), while citing an overall figure of 42 percent as the amount of time devoted to instruction, said the figure could be around 70 percent in "low-level colleges." Parsons and Platt (1969) reported that the percent of time devoted to teaching was 46 percent in high quality schools compared to 69 percent in low quality schools. Data such as these indicate that *judgments* of the quality of an institution are inversely related to the percent of the time that faculty members devote to instruction.

There are also differences among disciplines. These were shown in a study conducted at the University of California (1970). Data indicated that although 49 percent of the total university faculty taught nine or more weekly course contact hours, in the physical sciences only 22 percent taught nine or more hours compared to 55 percent of the faculty in the social sciences, and 63 percent of the faculty in arts and letters. In arts and letters and in the professions over 34 percent of the faculty taught twelve or more hours while the corresponding figure was 5 percent of the faculty in mathematics and in the physical sciences. Similarly Wattles (1971) reported that the per-

centage of time devoted to instruction varied from a low of 20 percent in higher education to a high of 77 percent in home economics and in urban planning.

Two studies have shown a negative correlation between rank and the percent of time devoted to teaching. Dunham, Wright, and Chandler (1966) report that instructors devote 57 percent of their time to teaching while professors devote only 42 percent of their time. Similar figures were presented by Orlans (1962): 55 percent for instructors and 43 percent for professors.

Finally, there have been differences over time. The reduction in teaching workload has been documented in *Careers of Ph.D.s* (1968) which reported a decrease from 66 percent of time devoted to teaching in 1910 to 50 percent in 1963. It also reported that women devote more time to teaching than do men.

Time Devoted to Research

One would expect wider variations in the amount of time devoted to research than in time devoted to instruction. Since both the institutional emphasis on research and individual predilections for research vary, there should be wide variations. At some institutions individuals may devote very little if any time to research and scholarly activities. At other institutions there may be some faculty members who devote close to 100 percent of their time to research.

Differences in the amount of time devoted to research have been well documented. There have also been studies of the variables correlated with the percentage of time devoted to research. But there do not seem to have been studies of individual differences or of the personality variables that correlate with the amount of time devoted to research in a university setting.

In an early study Evenden, Gamble, and Blue (1933) reported that faculty members in state universities, land grant institutions, and private nondenominational institutions spend more time doing research than do faculty members in teachers colleges or junior colleges. In 1929 Foley reported that more time was devoted to research in the natural sciences than in mathematics or engineering.

Parsons and Platt (1969) compared the amount of time devoted to research in institutions of varying quality. They reported that almost three times as much time was devoted to research in high quality institutions (35 percent compared to 12.5 percent in low-quality institutions). They also reported that almost everyone would have liked to devote more time to research (the ideal time was 45 per-

cent in high-quality and 25 percent in low-quality institutions). Similar data were reported by Orlans (1962).

Teaching Versus Research

Many pages in the literature of higher education have been devoted to discussions of the teaching-research relationship. Which is more important at a liberal arts college? At a university? How much should each factor be weighted in evaluating faculty members for promotion? For tenure? Is there a negative relationship between the amount of research performed and teaching ability? Does an individual have to concentrate on either teaching or research?

It would seem logical to assume that there is a high negative relationship between the two variables; as the amount of time devoted to teaching goes down, the amount of time devoted to research goes up, and *vice versa*. This assumption has often been made. But the assumption is only logical if the total time devoted to these two activities remains constant, and this is often not the case. It is possible that if teaching loads were reduced, faculty members would either reduce their total work week or devote more time to activities other than research.

The question of the relationship between the number of hours devoted to teaching and the number devoted to research is an empirical one. But, unfortunately, there have been few empirical studies. One of the best was done by Koos (1919) who correlated the time devoted to teaching and to research. All of the correlation values were small and negative, ranging from -.02 to -.10. He concluded "the correlation between time spent in teaching work and that spent in personal research is therefore 'negligible' " (p. 25). He later pointed out that because of the lack of relationship, university policy should not reduce the teaching load to encourage research. Although a general reduction throughout a university might result in increased research, it would result primarily from increased research activity on the part of those individuals inclined toward research, and would consequently be uneconomical.

> What would seem to be a much more economical and practical method is the reduction of the teaching schedule for individual instructors who have demonstrated their inclination toward and ability in research, by some measure of productivity, in spite of a normal teaching schedule. Such a reduction should be continued, of course, only as long as productivity continues (Koos 1919, p. 29).

Similar conclusions were drawn from the data obtained by Reeves

and others (1933). To illustrate their point they presented data on eight individuals, each of whom was teaching two undergraduate courses, and devoting less than 5 percent of his time to administrative work. The reported percentage of time devoted to teaching the two courses ranged from 25 to 83 percent with a median of 45 percent. Correspondingly, the reported percentage of time devoted to non-compensated research ranged from 0 to 65 percent, with a median of 21 percent. A third confirming report was that of Evenden, Gamble, and Blue (1933) who reported that most faculty members engaged in research had only slightly lower teaching loads than faculty not so engaged.

More recent data relating to this question were not located, even though cross-tabulations of existing data would undoubtedly be pertinent. Nevertheless, the earlier studies appear to be conclusive. We should take Koos' advice and look for evidence of research productivity rather than assuming that a reduction in teaching load will automatically result in such an increase.

Other Activities and Individual Differences

At several points throughout this monograph the importance of individual differences has been emphasized. We tried to point out that although the total number of hours worked per week was related to factors such as differences among institutions, academic disciplines, and ranks, individual differences tended to account for a high proportion of the variability. We again emphasized individual differences in our discussion of the relative proportions of time devoted to teaching and research. This is also true with respect to the other activities that faculty members engage in: interacting with students, institutional service, public service, and professional development.

The pervasive role of individual differences can be indicated by a consideration of the time devoted to interacting with students or to administrative activities. Four studies presented data indicating the percent of a faculty member's time devoted to counseling students. The percentages ranged from 1.8 percent (Ritchey 1959) to 12.4 percent (Bayer 1973), with Lorents (1971) reporting 2.8 percent, and Randolph (1950) reporting 9 percent. These studies were at different schools in different years. Also, the data represent averages but they clearly point up the variability that exists. Counseling students and interacting with students have different amounts of appeal for different faculty members. Some faculty members spend much time on

campus, often with their office door open, willing to talk to anyone who drops in. Other faculty members act as if they dislike students, although they would probably deny this. While they keep their official office hours, students seldom drop by. Individuals who fall into one or the other of these extremes will devote different percentages of time to student interaction. Most faculty members probably fall between the two extremes.

There are similar individual reactions to the administrative duties that faculty members may be asked to perform. Some faculty members enjoy committee meetings and some particularly enjoy being chairman of a committee. Others dislike such meetings and will avoid them as much as possible. The committee lover can spend many hours every week in happy interaction with his colleagues, discussing matters great and trivial. The committee hater will usually be able to avoid all except two or three meetings a year, and will be able to devote the time that might have been spent in committee work to other, presumably more productive or more congenial, activities. These comments apply not only to committee work but to other types of administrative duties as well. The amount of time devoted to these duties will depend on the institution as well as the individual. Thus, in five studies the amount of time devoted to administrative duties ranged from a low of 8.2 percent (Bayer 1973) to a high of 21.2 percent (Orlans 1962).

Conclusions and Recommendations

The number of articles devoted to faculty workload testifies to the continuing interest in this topic. Despite this interest there have been comparatively few advances since the pioneering study by Koos in 1919. In fact, many of the questions to which we need answers have not been researched since his study. Thus there is a critical need for accurate "hard" data and competent studies on which reasonable conclusions can be based. Despite the problems that are encountered in defining and measuring faculty workload, more studies must be conducted. Otherwise we will continue to base our decisions on the prevailing myths rather than on empirical data.

The work being done at the National Center for Higher Education Management Systems represents a step in this direction. Their standardized system for faculty activity analysis should make it possible for any college or university to obtain data that can be used in either intrauniversity or interuniversity comparisons. Even though one might object to some of the characteristics of the proposed procedures, as was occasionally done in this monograph, the advantages of the widespread use of a standardized system are indisputable. Consequently, it is recommended that the NCHEMS system be used initially, with modifications to be introduced at a later time.

Traditional workload surveys of this type should be viewed as only a first step. While they may provide answers to some of the questions about faculty workload that are still unanswered, they will not, by themselves, lead to a meaningful concept of faculty workload that will take individual differences into account. Thus, what is ultimately needed is data about individuals rather than averages summarizing the activities of groups or subgroups. Since the data indicate that generalizations about workload tend to be invalidated by the pervasive influence of individual differences, we should try to set up a system based on individual differences.

Just as the nature of higher education is changing in an attempt to provide students with "more options," we should try to provide more options in the definition of faculty workload. Rather than tying faculty members to standardized workloads and workload formulas, we should try to provide for individual differences in the definition of workload. We should not have standardized rules that require all

undergraduate faculty members to teach the same number of credits per semester while graduate faculty teach fewer hours. Instead, the faculty member's contract should state the approximate amount of time to be devoted to instruction, to research, to administrative activities, etc. The amount of time devoted to instruction could then be subdivided in terms of the specific courses to be taught. For example, a faculty member might contract to devote 60 percent of his or her time to instruction, 30 percent to research, and 10 percent to committees and administrative duties. The faculty member might further agree that 10 percent of the time would be devoted to a small discussion course, 25 percent to preparation of lectures for a large lecture section, 15 percent to a graduate seminar, and 10 percent to meeting with thesis students. Another faculty member could have a quite different contract.

Moving in the direction of the individualization of faculty workload would have many advantages. A major advantage would be the flexibility in making use of the specific interests and talents of the faculty member. We would not have to require that all faculty members teach the same course load or that all faculty members engage in research. Some faculty members might contract to devote 80 to 90 percent of their time to teaching, possibly teaching five or even six courses. Others might contract to teach only one or two courses while devoting most of their time to research or administrative activities. A second advantage of such a procedure would be the clarification of the basis for evaluation of a given faculty member. Since each faculty member would contract to devote certain amounts of time to specific activities, he or she would be expected to provide evidence of productivity in those areas. A faculty member who contracts to devote 25 percent of his time to a given course would be expected to somehow indicate that this course was different from a course to which another faculty member devoted only 10 percent of his time. The faculty member who contracted to devote 50 percent of his or her time to research would be expected to demonstrate how that time was spent, and to provide some indication of research productivity. The specific assignments could be made in terms of both the individual's proclivities and the institution's needs.

To set up a system of individualized workloads would require both time and knowledge. The time would be required to try to negotiate the contract that is best for both the individual and the institution. The knowledge would have to come from effective and comprehensive studies of faculty workload.

Data obtained in workload surveys should be used in discussions between the faculty member and the department head in the evaluation of the faculty member and in the specification of goals to be achieved. Thus a faculty member who indicates that 15 hours per week are devoted to scholarly productivity should be expected to provide some evidence of the results of such activity. A person who claims to devote 10 hours per week to student evaluation should substantiate this by indicating the nature of the evaluation. Persons with extensive committee assignments should not be expected to devote as much time to course preparation.

By individualizing contracts based on data obtained in workload studies, loads could be equalized on the basis of data rather than assumptions. If a person were assigned to teach two rather than four courses, this would be based on expectations of approximately how much time would be devoted to each course and how much time would be devoted to other activities, such as committee meetings or scholarly research. Two courses would not automatically be assigned to all full professors or all faculty members who teach graduate courses. An individual who contracted to teach only two courses without other extensive commitments would be expected to demonstrate superior preparation, evaluation, and student interaction with respect to these courses. Such a system would enable faculty members to set up a schedule in which they would devote their time to those activities they enjoy most or that they do best. It would enable the university to evaluate the faculty member's performance on the basis of the activities specified in the contract rather than on the basis of the generalized performances presumably expected of all faculty members.

Bibliography

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Aldrich, L.J. "An Index System For Equating Junior College Faculty Efforts." August 1967. ED 014 977. MF-$0.75; HC-$1.50.

American Association of University Professors Committee on Teaching, Research, and Publications. "Statement on Faculty Workload." *AAUP Bulletin* 56 (March 1970): 30-32.

Athanasopoulos, D. *Sample Design and Analysis for Faculty Time Study*. Berkeley, California: University of California, Office of Analytical Studies, 1968. HE 005 333 (July RIE).

Axt, R.G. "Assumptions Underlying Present Ways of Measuring Faculty Load." In *Faculty Workload*, edited by K. Bunnell. Washington D.C.: American Council on Education, 1960.

Ayer, F.C. "Computing and Adjusting the University Teaching Load." *Nation's Schools* 4 (July 1929): 26-30.

Bailey, D. "Faculty Teaching Loads: The State University." In *Faculty Teaching Loads in Colleges and Universities*, New York: Association of Departments of English, 1968. ED 017 528. MF-$0.75; HC-$1.50

Balfour, W.C. "The Academic Working Week." *Universities Quarterly* 24 (Autumn 1970): 353-359.

Banks, J. "An Investigation of Methods for Determining Faculty Loads." Master's Thesis, University of Alabama, 1963.

Bayer, A.E. "Teaching Faculty in Academe: 1972-1973." *ACE Research Reports* 8 (1973): 1-68.

Bjork, A.J. et al. "Evaluation of Faculty Services." *AAUP Bulletin* 34 (Summer 1948): 566-575.

Blackburn, R.T., and Trowbridge, K.W. "Faculty Accountability and

Faculty Workload: A Preliminary Cost Analysis of Their Relationship as Revealed by Ph.D. Productivity." 1972. ED 065 091. MF-$0.75; HC-$1.50

Blee, M.R. "The Use of Faculty Load Data in Interinstitutional Analysis." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

Bogue, E.G. "Method and Meaning in Faculty Activity Anaylsis." In *Reformation and Reallocation in Higher Education. 12th Annual Forum of the Association for Institutional Research,* edited by C.T. Stewart. Claremont, California: Associaton for Institutional Research, 1972. HE 004 290. MF-$0.75; HC-$7.80.

Bolton, D.L. "Measuring Faculty Load." *Improving College and University Teaching* 13 (Summer 1965): 157-158.

Buckler, W. et al. "Faculty Teaching Loads in Colleges and Universities." New York: Association of Departments of English, 1968. ED 017 528. MF-$0.75; HC-$1.50.

Bunnell, K. ed. *Faculty Workload.* Washington, D.C.: American Council on Education, 1960.

Campbell, D.T., and Fiske, D.W. "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix." *Psychological Bulletin* 56 (March 1959): 81-105.

Cannell, L.D. "Apportioning Straws to Camels' Backs." *Junior College Journal* 30 (September 1959) : 3-5.

Caplow, T. "The Dynamics of Faculty Load Studies." In *Faculty Workload,* edited by K. Bunnell. Washington D.C.: American Council on Education, 1960.

——. and McGee, R.J. *The Academic Marketplace.* New York: Basic Books, 1958.

Careers of Ph.Ds: *Academic vs. Nonacademic, a Second Report on Follow-ups of Doctoral Cohorts, 1935-1960.* Washington, D.C.: National Academy of Sciences,1968.

Charters, W.W. "How Much Do Professors Work?" *Journal of Higher Education* 13 (June 1942): 298-301.

Cornish, D.J. "Faculty Workloads—A Critical Examination." Edmonton: Alberta Colleges Commission,1972. ED 607 065. MF-$0.75; HC-$4.20.

Davidoff, F. "Compton College Teacher Load Survey." *Junior College Journal* 27 (March 1957): 377-380.

Davis, C.O. "The Teaching Load in a University." *School and Society* 19 (May 1924) : 556-558.

de Grazia, S. *Of Time, Work, and Leisure.* New York: The Twentieth Century Fund, 1962.

Doi, J. "The Proper Use of Faculty Load Studies." In *Studies of College Faculty,* Boulder, Colorado: Western Interstate Commission for Higher Education, 1961.

——. "The Use of Faculty Load Data Within an Institution." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

Douglass, H.R., and Gruhn, W.T. "Teaching Load." In *Encyclopedia of Educational Research,* edited by W.S. Monroe. New York: Macmillan Co., 1941, pp. 1257-1264.

———, and Romine, S. "Teaching Load." In *Encyclopedia of Educational Research,* edited by W.S. Monroe. 2d ed., rev. New York: Macmillan Co., 1950, pp. 1454-1461.

Dunham, R.E.; Wright, P.S.; and Chandler, M.O. *Teaching Faculty in Universities and Four-year Colleges, Spring 1963.* Washington: U.S. Office of Education, 1966.

Durham, G.H. "The Uses and Abuses of Faculty Load Data." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

El Camino College Teacher Load Study Committee. *"Study of Teacher Load Practices in California Public Junior Colleges."* 1963. ED 012 593. MF- $.075; HC-$3.15.

Ellison, A. "Faculty Load in a School of Education." *School and Society* 86 (February 1958): 87-89.

Enochs, J.B. "Problems of Defining Faculty Load." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

Eurich, A.C. "Maintaining and Improving the Quality of Instruction: Better Instruction With Fewer Teachers." *Journal of Higher Education* 27 (May 1956): 239-244.

Evans, J. M. "The Credit Hour Doesn't Provide a Sound Basis for Measuring the Teaching Load." *College and University Business* 22 (January 1957): 42-43.

Evenden, E.S.; Gamble, G.C.; and Blue, H.G. "Teacher Personnel in the United States." *National Survey of the Education of Teachers,* Office of Education, Bulletin No. 10. Washington: Government Printing Office, 1933.

Foley, A.L. "Report of Committee on Teaching Load in Colleges." *North Central Association Quarterly* 4 (1929): 250-257.

Foothill College Office of Institutional Research and Planning. "In-

structional Load Study." Los Altos, California: Foothill College, 1966. ED 013 595. MF-$0.75; HC-$1.70.

Hansen, J. "Science Laboratories and Physical Education Activity Classes as an Aspect of Teacher Load." Fresno, California: State Center Junior College District, 1968. ED 024 378. MF-$0.75; HC-$1.50.

Hauck, G.F. "Estimating Faculty Workload." *Engineering Education* 60 (October 1969): 117-119.

Heffernan, J. "The Credibility of the Credit Hour." *Journal of Higher Education* 44 (January 1973): 61-72.

Henle, R.J. "Systems for Measuring and Reporting the Resources and Activities of Colleges and Universities." Washington, D.C.: National Science Foundation, 1967. ED 016 309. MF-$0.75; HC-$1.85.

Henning, K.K., and Masterson, T.R. "A Proposal Equitably to Determine the Teaching Load." *College and University Business* 23 (October 1957): 23-24.

Hicks, J.W. "Faculty Workload—An Overview." In *Faculty Workload*, edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

Hill, A.J. "Measuring Faculty Workload." *Journal of Engineering Education* 60 (October 1969): 92-96.

Hobbs, M.T. "Teaching Loads in Selected Liberal Arts Colleges." *Liberal Education* 52 (December 1966): 418-421.

Hodgkinson, H.L. "A Truer Calculation of Faculty Workload." *Chronicle of Higher Education*, May 21, 1973, p. 7.

Hoppock, R. "Doctorate Loads." *Journal of Higher Education* 19 (November 1948): 425-429.

Howell, C.E. "A Concept of the Measurement of Faculty Load." *Journal of Experimental Education* 31 (December 1962): 121-128.

Kelly, F.J. "Relative Amounts of Time Required for Teaching Different College Courses." *Journal of Educational Research* 13 (1926): 273-283.

Kilpatrick, E.G. Jr. "Junior College Faculty Load." Ph.D. dissertation, University of California, 1969.

Knowles, A.G., and White, W.C. "Evaluation of Faculty Loads in Institutions of Higher Learning." *Journal of Engineering Education* 29 (June 1939): 798-810.

Koos, L.V. *The Adjustment of the Teaching Load in a University*. Department of the Interior, Bureau of Education, Bulletin No. 15, Washington, D.C.: Government Printing Office, 1919.

Lambert, S.M., and Iwamato, D. "Teaching Load." In *Encyclopedia of*

Educational Research, edited by C.W. Harris. 3d ed., rev. New York: Macmillan Co., 1960, pp. 1496-1502.

Laser, M. "Teaching Load and Class Size in English Composition." *Junior College Journal* 25 (January 1955): 253-260.

Light, D.W. Jr., et al. *The Impact of the Academic Revolution on Faculty Careers.* ERIC/Higher Education Research Report Number 10. Washington, D.C.: American Association for Higher Education, 1972. ED 072 758. MF-$0.75; HC-$4.20.

Lins, L.J. *Characteristics and Utilization of Time of Teaching Faculty: University of Wisconsin and State University Systems.* Madison, Wisconsin: Wisconsin Coordinating Council for Higher Education, 1971.

Linsjy, A.S. and Strauss, M.A. "Dimensions of Academic Competence: The Relationship of Classroom and Research Performance of College Faculty. Final Report." Durham, New Hampshire: New Hampshire University, June 1972. ED 063 905. MF-$0.75; HC-$4.20.

Lorents, A.C. "Faculty Activity Analysis and Planning Models in Higher Education." St. Paul, Minnesota: Higher Education Coordinating Commission, 1971. ED 055 571. MF-$0.75; HC-$16.20.

Lyons, J.M. *An Inter-Departmental Analysis of Faculty Workload Patterns.* Pittsburgh, Pa.: University of Pittsburgh, Office of Planning, 1970.

Manning, C.W. *Faculty Activity Analysis: Interpretation and Uses of Data.* Boulder, Colorado: Western Interstate Commission for Higher Education, 1974.

——. and Romney, L.C. *Faculty Activity Analysis: Procedures Manual.* Boulder, Colorado: Western Interstate Commission for Higher Education, 1973. HE 004 891. MF-$0.75; HC-$6.60.

McElhaney, J.H. "Attitudes of Selected Professors at Ohio State University Regarding Their Workloads." Ph.D. dissertation, Ohio State University, 1959.

McMullen, L.B. *The Service Load in Teacher Training Institutions of the United States.* New York: Bureau of Publications, Teachers College, Columbia University, 1927.

Michell, E.M. "Need for Time Analysis of Instruction." *Journal of Higher Education* 8 (June 1937): 311-314.

Miller, K.C. "A Study of Faculty Workload in Higher Education." Ph.D. dissertation, University of Mississippi, 1968.

National Council of Teachers of English. Committee on Load of College Teachers of English. "Workload of a College English Teacher:

A Proposed Statement of Policy." *College English* 28 (October 1966): 55-57.

National Education Association. "Faculty Load Policies and Practices in Colleges and Universities." July 1972. ED 068 029. MF-$0.75; HC-$1.50.

National Education Association. "Faculty Load Policies and Practices in Public Junior and Community Colleges." March 1972. ED 070 429. MF-$0.75; HC-$1.50.

Nicholson, D.G. "College Teaching Loads, 1951-1952." *Journal of Chemical Education* 30 (March 1953): 148-150.

Now, H.O. "The Effect of Various Factors on Faculty Workload at Findlay and Adrian College." Ph.D. dissertation, Ohio State University, 1963.

Ohio, Interuniversity Council of. *Faculty Load Study*. Columbus, 1970.

Oosting, K.W. "Equating Faculty Loads." *Junior College Journal* 36 (May 1966): 10-11.

Orlans, H. *The Effects of Federal Programs on Higher Education*. Washington, D.C.: Brookings Institution, 1962.

Parsons, T. and Platt, G.M. "The American Academic Profession, a Research Proposal Submitted to the National Science Foundation." Cambridge: Harvard University, 1969.

Pfeiffer, M.G. "A Technique for Measuring the Expected Amount of Mental Work Delivered by College Professors in the Classroom." Philadelphia, Pennsylvania: La Salle College, 1971. ED 058 264. MF-$0.65; HC-$1.50.

Pessen, I. "How Does the Professor Spend His Time?" *Junior College Journal* 32 (January 1962): 280-283.

Randolph, V. "The Professor's Weekly Work Hours." *School and Society* 72 (September 1950): 201-202.

Reeves, F.W. and Russell, J.D. *College Organization and Administration*. Indianapolis: Board of Education, Disciples of Christ, 1929.

—— et al. *The University Faculty*. Chicago: University of Chicago Press, 1933.

Richards, C.F. "Toward the Equalization of Teaching Loads." *Journal of Higher Education* 21 (January 1950): 39-41.

Richardson, H.D. "Faculty Workload Study and Analysis." *College and University* 43 (Fall 1967): 108-114.

Ritchey, J.A. "Utilizaton of Engineering Faculty Time." *Journal of Engineering Education* 50 (December 1959): 244-250.

Romney, L.C. "Faculty Activity Analysis: Overview and Major Issues."

Boulder, Colorado: Western Interstate Commission for Higher Education, 1971. ED 062 947. MF-$0.75; HC-$5.40.

Ruml, B. and Morrison, D.H. *Memo to a College Trustee.* New York: McGraw-Hill, 1959.

Sexson, J.E. "A Method for Computing Faculty Load." *Improving College and University Teaching* 15 (Autumn 1967): 219-222.

Sheets, N.L. "Guidelines for Assigning College Faculty Loads." *Journal of Health, Physical Education, and Recreation* (1970): 40-43.

Simmons, J.C. "What is a Full-Time Equivalent (FTE) Faculty Unit?" *College and University* 46 (Fall 1970): 33-36.

Smiley, D.F. "Defining Full-Time for College Professors." *Journal of Medical Education* 31 (1956): 566-567.

Smith, H.C. "Class Size—Does It Make a Difference? (Review of the Research)." Urbana, Illinois: National Council of Teachers of English, 1971. ED 058 210. MF-$0.75; HC-$1.50.

Snepp, D. "Teaching Conditions and Loads at San Francisco City College." 1968. ED 016 682. MF-$0.75; HC-$1.50.

Stewart, L.O. "Teaching Loads-Their Measurement and Calculation." *Journal of Engineering Education* 25 (November 1934): 225-239.

Stecklein, J.E. "Methods of Analyzing, Expressing, and Reporting Faculty Load Data." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

——. *How to Measure Faculty Workload.* Washington, D.C.: American Council on Education, 1961.

Stickler, W.H. "Working Material and Bibliography on Faculty Load." In *Faculty Workload,* edited by K. Bunnell. Washington, D.C.: American Council on Education, 1960.

Thompson, R.K. "How Does the Faculty Spend Its Time?" Mimeographed. Seattle, Washington: University of Washington, February 25, 1971.

Toombs, W. *Productivity: Burden of Success.* ERIC/Higher Education Research Report No. 2. Washington, D.C.: American Association for Higher Education, 1973. ED 076 174. MF-$0.75; HC-$3.15.

Trabue, M.R. "College Teachers at Work." *Review of Educational Research* 22 (June 1952): 233-237.

Trotter, B. et al. "The Ten O'Clock Scholar? What a Professor Does for His Pay." Toronto: Council of Ontario Universities, 1972. ED 069 209. MF-$0.75; HC-$1.50.

Tydall D.G. and Barnes, G.A. "Unit Costs of Instruction in Higher Education." *The Journal of Experimental Education* 31 (December 1962): 114-118.

University of California, Office of the President. *Faculty Effort and Output Study*. Berkeley: University of California Press, 1970.

Wattles, M.D. "Faculty Workload Study." Mimeographed. Eugene, Oregon: University of Oregon, 1971.

Wessel, R.H. "Teaching Loads and Educational Performance." *Liberal Education* 52 (October 1966) : 339-346.

Wilcox, T. "National Survey of Undergraduate Programs in English." In *Faculty Teaching Loads in Colleges and Universities*. New York: Association of Departments of English, 1968. ED 017 528. MF-$0.75; HC-$1.50.

Williams, R.L. "The Faculty Workload–Alternate Methods of Evaluation." Denver, Colorado: Education Commission of the States, 1970. ED 051 791. MF-$0.75; HC-$1.85.

Wilson, L. *Academic Man*. New York: Oxford University Press, 1942.

Woodburne, L.S. *Principles of College and University Administration*. Stanford, California: Stanford University Press, 1958.

Yeager, W.A. "The Service Load of Faculty Members in Education." *Educational Research Bulletin* 35 (February 1956): 39-46.

Young, W.L. "Six Criteria Form a Composite Profile Chart of Faculty Load." *College and University Business* 36 (April 1964): 59-60.

Yuker, H.E. et al. "Time Spent in Committee Meetings." Hempstead, New York: Hofstra University, Center for the Study of Higher Education, 1972. ED 068 050. MF-$0.75; HC-$1.50.

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